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A LAND USE DECISION METHODOLOGY FOR ENVIRONMENTAL CONTROL

ROCKY MOUNTAIN CENTER ON ENVIRONMENT

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This report proposes an ecologically responsible land use decision-making system for local, regional and, to an extent, state governments. Referred to as LUDMS, it is based on conclusions that local governments have not dealt effectively with land use problems because traditional planning and land use control devices are unecological, unresponsive and unsystematic. The fundamental premise of LUDMS is that environmentally responsible land use planning and control must be based on valid ecological information combined with enlightened and informed public opinion.

LUDMS makes use of several basic concepts, including policy planning (a process for combining public opinion with scientific and technical information to create community policies); use of an interdisciplinary team; public participation; an environmental resources inventory and analysis; a staff which understands and can communicate about ecology; legal devices for land use control; and positive community programs. "Model" state and local codes for implementing LUDMS are provided.

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By

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ABSTRACT

This report to the Environmental Protection Agency (EPA) proposes an ecologically responsible land use decision-making system for local, regional and, to an extent, state governments. It is referred to as LUDMS. It is based on conclusions that local governments have not dealt effectively with land use problems because traditional planning and land use control devices are unecological, unresponsive and unsystematic.

The fundamental premise of LUDMS is that *environmentally responsible land use planning and control must be based on valid ecological information combined with enlightened and informed public opinion.* This premise grows out of the philosophical conviction that Man and Nature are not inherently incompatible but must become harmonious since Man is a part of Nature.

LUDMS makes use of several basic concepts, including policy planning (a process for combining public opinion with scientific and technical information to create community policies); use of an interdisciplinary team; public participation; an environmental resources inventory and analysis; a staff which understands and can communicate about ecology; legal devices for land use control; and positive community programs.

"Model" state and local codes are provided, although, because of the diversity of requirements of various jurisdictions, the term "example" might be more appropriate.

Throughout the report there runs a common philosophical concern: that America needs a new land ethic if the quality of life is to be protected and enhanced.

This report was submitted **by the Rocky Mountain Center on Environment, under the sponsorship of the Environmental Protection Agency. Work was completed as of January 1975.**

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Albert G. Melcher, P.E.
Executive Director
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SECTION I

CONCLUSIONS

Present land use decision-making systems do not utilize adequate information on the biophysical and sociocultural environment in all decisions at state, regional and local levels. Nor do they involve rigorously-constructed relationships between planning and implementing plans. There are a number of **defects in land use planning and controls.**

It is possible to integrate systematic, interdisciplinary environmental analysis into land use planning and to develop a plan implementation process which depends on and actually utilizes the interdisciplinary analysis. The implementation controls can use either an improved zoning-subdivision regulation approach or a permit system in lieu of the more traditional devices. A Policy Plan would be the central focus of the new system proposed in this research report.

SECTION II

RECOMMENDATIONS

This research effort has resulted in a recommended generalized system of planning and implementation of land use decision making. It could be utilized by a political jurisdiction, with a development phase to adjust it to the specific conditions of that jurisdiction.

It is recommended that the EPA and/or other Federal agencies consider several courses of action for possible further use of this report, as follows:

(1) A "demonstration project" in a jurisdiction which may soon commence a major planning effort, which has significant land use problems or pressures and which has reasonable public acceptance of the need for planning and controls.

(2) A series of regional citizen/official institutes or seminars to disseminate the results of this research effort so that there could be broader understanding of the key concepts (interdisciplinary analysis, legal controls to utilize this analysis, etc.).

(3) A set of workbooks or guidebooks which could assist citizens and officials in understanding findings of this report. These could be generalized or could be developed for a specific state or region. The latter approach would involve further research into the existing state statutes, agency duties, and geopolitical character.

SECTION III

INTRODUCTION: AN OVERVIEW

> Ecologically irresponsible land use practice arising from generally ineffective land use control--aside from the "growth ethic"--is the basic environmental problem facing America. Land use patterns are the generators, the *root causes*, of the environmental *symptoms* of polluted air, polluted waters, and other problems to which we have given infinitely more attention.
>
> Vast areas of the American landscape, including sparsely populated and seemingly environmentally virgin areas of the West and Alaska, are under a state of siege from an army of diverse forces. Triggering factors cannot be overstated: rapidity of change, absence of adequate laws and institutions, a general apathy and unawareness on the part of the public, and accelerating population mobility. The Frontier Ethic--that every man has a right to use his own property as he pleases--still pervades the American Dream. . . .
>
> Land use is the most difficult of all environmental problems even to approach, let alone solve. It is guarded by the great, bawling sacred cow called "private property"; land use planning is an inflammatory phrase. . .and land use controls are still considered by many to be some sort of Communist plot.*

A. THE PROBLEM

Now that ecologically irresponsible land use has become a national problem of crisis proportions, it is being attacked almost in desperation with a curious diversity of weapons. Land use has become a popular concern, a social phenomenon rivaling the environmental movement of the early 1970's (to which it is inextricably related) and the "energy crisis." The Federal Government is considering its possible major entry into the land use arena, and most state governments are groping with legislation which relates land use and environmental quality.

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* "A National Land Use Policy--Toward a New Land Ethic," Address to the Twenty-Fourth Annual Institute on Oil and Gas Law and Taxation, by Roger P. Hansen, Executive Director, Rocky Mountain Center on Environment (1973).

In the meantime, local and regional governments, with a few notable exceptions, are dealing with a few fragments of the problem, and at the same time are concerned about potential state interference with the traditional roles of cities and counties. The facts are simply that inability to deal effectively with land use problems has become a congenital local government disease.

Despite attempts to alleviate problems through the use of traditional planning and land use control devices, primarily zoning, the degradation of the American landscape continues unabated: rivers of neon, forests of billboards, suburban uglification, uncontrolled urban sprawl, and trailer parks swelling at the gateways to most American cities. Effects of present land use decisions have been described by a number of astute observers in recent years. People such as Rachel Carson, Eugene Odom, Louis Mumford, Christopher Tunnard and Boris Pushkarev, William H. Whyte, Edmund K. Faltermayer, and others represent a broad spectrum of viewpoints. The summation is a litany of poverty, social costs, urban decay, high urban costs, loss of wildlife, adverse change in ecosystems and climate, loss of ecological stability, ugliness, loss of open space, polluted air and water, human alienation, impoverished land and permanent loss of land productivity, degradation of recreation quality, and loss of species.

Why haven't traditional planning and control devices such as zoning, subdivision regulations, building codes, and urban renewal worked? The major and most obvious reasons appear to be these:

1. Unecological. Traditional planning and land use controls rarely incorporate the principles of the science of ecology. The first principle of ecology, "everything affects everything else," has been ignored with disastrous consequences. Housing, health, transportation, beautification, police protection and other community components have been considered only as vertically arranged, unrelated compartments. The interrelationships and interactions between the components of the environment have not been a major concern of planning. Geographically, political jurisdictions do not coincide with ecological "districts" or characteristics. Institutions are not organized on the basis of ecological units (with the exception of river basin commissions or planning bodies). Ecological and spatial thinking, in a holistic manner, is inadequate in current planning.

2. Uncomprehensive. Planning has not been "comprehensive" in the true sense of the word. It has been limited in scope; usually, physical development factors and superficial social well-being factors comprise the scope of planning concerns. Also, the knowledge base for sound and truly comprehensive planning and decision making is inadequate; the earth sciences, life sciences and social sciences in general and in regard to specific areas have not always been able to provide the knowledge which could or should be brought to bear on decisions. However, when this

knowledge is available, it is usually not utilized in decisions.

3. Unsystematic. Planning is too often a series of unsystematized fragments related to an immediate issue or crisis. Society tends to abdicate major and long-range decisions in favor of short-range decisions; planning generally does not use a systematic approach to trace long-term implications of today's decisions. The assessment of value conflicts, "quality of life" indicators, intangible values, trade-offs, and interactive effects is inadequate, or often ignored. Planning generally does not have systematic analytic procedures for deciding among alternatives, with the consideration of the aforementioned factors. Public lands and their management have been structured historically so that their role in overall land use is not consistent with contemporary problems and needs. Patterns of ownership, uses and lack of proper "multiple uses," management consistent with environmental principles: these major defects are found in public lands vis-a-vis a systematic land use decision system. Public works decisions which are actually land use decisions are not considered as such; highways and water resources especially are outside of the normal land use planning and decision systems.

4. Unresponsive. Planning and controls are usually not responsive to the needs, desires, aspirations and goals of the community. Often, planning may not even seek the articulation of these factors. Planning and land use control, implemented as they are by professional planners, planning commissions, mayors and city engineers, are often far removed from the citizens of the community whose needs they are supposed to fulfill. The public has little chance to participate in the planning decision-making process since the basic mechanism for public involvement, the public hearing, often takes place only after the decisions have already been made.

5. Unintelligible. Land use planning and control have been enveloped in professional planning jargon, ponderous legalese, and bureaucratic double-talk. Words and phrases like "systems matrix," "A-95 review," "701 planning," and other such terms are the language of an elite that is unintelligible to intelligent laymen in the community for which the planners supposedly work. Planning has fallen into the same trap as much art, architecture and advertising: peer group esteem and recognition are sometimes more important than service to society.

6. Unreliable. The traditional devices have proved themselves to be unreliable time and time again--unreliable politically, unreliable technically, and unreliable legally. A decision to restrict building height has shunted councilmen out of office, the shopping center turns out to be in a flood plain, and the sign code is overruled by the supreme court. It is little wonder that elected officials and citizens alike frequently consider land use planning and control to be something they would be better off without.

The reasons for the massive unreliability are simple even though some of the solutions are extremely complex. First, planning is viewed solely and exclusively as a *political* process on which political reputations may be made or lost. Second, there are relatively few mechanisms or even personnel to collect and assemble the scientific and technical data necessary to either support or abort a land use decision. Third, traditional control devices like zoning are frequently arbitrary, capricious, and a "taking" of property unconstitutionally because they are not supported by facts about the use being controlled but are based on the "precedent" of what happened in an entirely different situation. An ordinance may be drafted by using an example from a remote city without any regard to the local ecosystems, human community and forces of change.

7. Corruptible. When land use decisions are based neither on scientific and technical data nor citizen desires, but instead on the whim of politicians, they are subject to continuing corruption as regards the well-being of the public and the ecological community. Citizen suspicions that money is being passed under the table are often justified. Developers with the most money or the most political clout often seem to get the variance or the rezoning. Public cynicism about planning is understandable since planning has often become a chess game between officials and developers or speculators, a game in which the third party--the public--is not invited to play.

8. Inflexible. Even though variances, rezonings and other exceptions are granted in some communities with relative ease, the zoning map, the comprehensive plan, the building codes and other land use control mechanisms often become frozen in place at one point in time, offering only one view of the future. Changing conditions--economic slumps, energy crises, new technology, increased tax base--cannot be accommodated without redoing the whole process which in turn becomes re-frozen. Little updating is actually accomplished; systematic approaches for this are generally lacking.

9. Unimplementable. Most plans, no matter how ambitious, expensive, or time-consuming, wind up gathering dust in the county or city offices. They have their own political, technical and legal built-in self-destruct mechanisms because they do not firmly establish a direct flow of action and legal process between the planning and the implementing. The public does not come to their rescue because the public was never involved in the first place. It is surprising in a way that after all these years of planning without implementation, planning would still be a popular crusade.

10. Unethical. The rationale for planning is still rooted in the growth ethic and the community boosterism concept. Unimplemented plans are shown in Chamber of Commerce brochures to lure new industry, and professional planners often sell their wares as growth agents and industrial prospectors for the community. The ethic of the industrial society, fused with the pioneer mentality, has pervaded the planning profession. The view of the world and its organisms as something exclusively for the use of man is reflected in planning. The very term "land use" has this implication. The public attitude--the land ethic--of America may well be the

primary cause of the current degradation of the environment. Until the planner is freed of the pressures of the growth ethic proponents, and until the planner himself recognizes the holistic character of the environment and its organisms, including man, land use decisions will continue to produce ecological devastation.*

In the final context, to alter the trends in the land use of the past, new systems of decisions must address each of the defects of the past. Further, they must include the articulation of new policies, such as those which are expressed in the National Environmental Policy Act. These policies must be applicable to all levels of decision making.

> Land use used to be viewed as a problem of limited concern. Today we realize that land use issues lie at the heart of many of the most critical environmental decisions facing the Nation, whether they be air quality implementation plans, decisions on where to locate large-scale energy facilities, policies for use in our public lands, how best to manage the national parks and forests, seasonal home subdivisions in the mountains and along the coasts, or problems of urban encroachment on valuable natural areas. In short, land use has developed as one of our most serious environmental problems.
>
> There are a number of reasons for this worth mentioning. First, land use issues are often very complex and often call for value judgments related to acceptable degrees of development and acceptable levels of mitigation of adverse impacts. The effects of land use decisions are widespread throughout the range of environmental concerns, including pollution, crowding, loss of wildlife and natural cover, and nearly any other issue you can think of; in short, land use issues require an extraordinary degree of understanding of system interrelationships and ecological balance.
>
> Second, the job of institution-building for better land use involves the difficult task of reforming an existing and complicated structure of sometimes overlapping, often fragmented decision-making processes. Developing EPA's air and water pollution programs and other areas of environmental concern was somewhat easier because there were fewer governmental entities to deal with and less diffusion of institutional commitment to those programs' goals. When we look at land

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* A detailed case study was conducted by the researchers on an actual major industrial development. This included a flow chart of decisions (and non-decisions) made by the industry, state, local officials and others. It is not included in this report, but is available at the Project Office and the research office (ROMCOE, 4260 East Evans Avenue, Denver, Colorado 80222).

use, however, we encounter an often mind-boggling array of decision bodies, each with its constituency, each with its interests and requirements and regulations and sense of self-preservation. That makes change harder to accomplish.

Finally, the kind of basic reform in our attitudes toward land use which is required to meet the challenge of development and preservation pressures in our country today necessitates a reexamination of some of our most deep-seated values regarding the private use of land and the public welfare. It is not radical to undertake this reevaluation; indeed it is in the American spirit to constantly question and reform and renew our institutions to make them more responsive to changes in public attitudes.*

B. AN ECOLOGICALLY RESPONSIBLE LAND USE DECISION-MAKING SYSTEM

This research project of the Rocky Mountain Center on Environment has a basic objective of development of an integrated system of land use planning and plan implementation which thoroughly incorporates ecological principles. It seeks to overcome the previously enumerated defects which have led to ecologically irresponsible planning.

We recognize that many of the basic problems with making land use decisions are probably insoluble, although they can be mitigated. The "growth ethic," for example, will not be eliminated by this proposed system, but it can be mitigated by the recommended process of gathering scientific data which establishes the concept that growth does have ecological limits.

The most important aspects of LUDMS for the purposes of giving a broad overview are: philosophical framework; policy planning; implementation; and the relative roles of local, regional, state and Federal governments. The heart of the entire system is policy planning. Throughout this report the terms "environment" and "environmental" must be understood to include the social, cultural and economic components of the human population as well as the biological and physical components which often are singled out as "the environment."

The system described in this report will be referred to as the "land use decision-making system" or "LUDMS." It has been systematized by several means. First, planning for land use is directly related to the plan implementation; the second flows from and is structured by the first. Second, in planning, three main groups of participants and the sequential activities of each are systematically woven together. Third, implementation of plans, legal documents and the review of proposed land use changes thoroughly incorporate environmental determinants. Fourth, positive community action programs are developed as derivatives of the three-group analytical process in planning.

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* From "Foreword" by Russell E. Train, Administrator, Environmental Protection Agency, to "Land Use and Environmental Protection," Report to the Environmental Protection Agency by the National Youth Advisory Board, 1974.

There are many attempts in America to improve portions of the system. These have created some additions to the present land use decision process, such as local or state environmental impact statements. But the writing of an impact statement does not mean that environmental information will be woven into the process for decision making from beginning to end. This latter is what LUDMS is intended to do.

The researchers conducted a limited test of the system in a workshop simulation held at the Pueblo, Colorado, Council of Governments in May, 1974. This is discussed in Appendix D.

1. Philosophical Framework

> Tremendous pressures, originating from a variety of sources, are producing through carelessness, ecological ignorance, lack of awareness, and legal and institutional deficiencies man-made environments which are neither sensitive to nor integrated with the character and physical capability of natural ecosystems or the human environment. Instead of "designing with nature," man obliterates it.*

If it is possible to express the overall thrust of the proposed LUDMS, it is this: *environmentally responsible land use planning and control must be based on valid ecological information combined with enlightened and informed public opinion.* This entire report is concerned with the mechanisms for achieving that objective.

It is a basic principle of environmental planning that Man and Nature can live together harmoniously--that Man's activities can be planned as though he were a part of Nature, which, in fact, he is. To achieve this harmonious balance, Man's developments must be tempered to respond to land capabilities and natural environmental constraints. The benefits from such a practice will be as much social and economic as they will be ecological.

Attaining a harmonious relationship between Man and Nature is not merely a biological or technological problem. It is basically a social and psychological problem with several root causes in the social context: (1) a prevailing social value system that has traditionally given priority to development and production over qualitative dimensions of living; (2) a propensity to portray the "good life" in terms of annual increases in the Gross National Product; (3) a proprietary attitude toward land and all that it produces; (4) technological "progress" that is often insensitive to certain environmental imperatives; and (5) a massive ecological ignorance which fragments, dissects and compartmentalizes without regard to a basic ecological concept: *everything affects everything else.*

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* "A National Land Use Policy--Toward a New Land Ethic." Address to the Twenty-Fourth Annual Institue on Oil and Gas Law and Taxation, by Roger P. Hansen, Exec. Director, Rocky Mountain Center on Environment (1973).

This concept, in scientific terms, is called "the principle of the *holocoenotic* environment." Holocoenotic comes from two Greek words: "holo," meaning whole, and "coenotic," meaning common. The principle, then, means that the environment is whole--a single entity--and everything is in common. Everything is affecting, or being affected by, a variety of other factors, organisms and processes.

There is a need for a decision-making process which utilizes basic ecological concepts and which accounts for the chain of effects which will occur over a period of time. As a corollary, the processes must recognize that a "land use decision" involves much more than pure land use in the traditional sense; it is, in truth, an *ecosystems use decision.* Dr. Eugene Odum discusses the problem in terms of water quality:

> Although the pond seems self-contained in terms of the biological components, its rate of metabolism and its relative stability over a period of years is very much determined by the input of sun energy and especially by the rate of inflow of water and materials from the watershed. A net inflow of materials often occurs particularly when bodies of water are small or outflow is restricted. When man increases soil erosion or introduces quantities of organic material (sewage, industrial wastes) at rates that cannot be assimilated, the rapid accumulation of such materials may be destructive to the system. The phrase *cultural eutrophication* (= cultural enrichment) is becoming widely used to denote organic pollution resulting from man's activities. Therefore, *it is the whole drainage basin, not just the body of water, that must be considered as the minimum ecosystem unit when it comes to man's interests.* The ecosystem unit for practical management must then include for every square meter or acre of water at least 20 times an area of terrestrial watershed. The cause of and the solutions for water pollution are not to be found by looking only into the water: it is usually the bad management of the watershed that is destroying our water resources. The entire drainage or catchment basin must be considered as the management unit.* (Emphasis added.)

Decisions involving land use and attendant ecological effects have traditionally been separated into unrelated compartments such as the land itself (ownership and permitted type of development on each isolated segment of land), water supply, runoff and flood control, air quality control, fish and wildlife management, transportation, social and governmental services, soil conservation, resource utilization and economics (including subsidies), and so forth. The mentality which has viewed ecosystems and processes in this fragmented, compartmentalized manner has also created institutions which further fragment. These include Federal, state and local governmental agencies and private organizations. Their existence constitutes a significant built-in resistance to the application of any "ecosystems-use decision-making process." It leads to the treatment of symptoms rather than causes; in the case of the lake, the symptom which is usually treated is the water quality; the root cause, land use decisions, is ignored. In a holistic land use decision-making system, man must deal with the entire, interrelated, comprehensive system of causes and effects, institutional and physical.

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* Fundamentals of Ecology, Third Edition, by Eugene P. Odum, W. B. Saunders and Company, Philadelphia, 1971. P. 420.

Thus LUDMS attempts to structure a land use decision-making system that combines and balances human (citizen) desires, concerns and aspirations for the future with reliable technical and scientific information about the environment, natural and man-made. While this is not a "pure" ecological approach, it comes much, much closer than traditional devices.

2. Basic LUDMS Concepts

While the overall LUDMS approach is referred to as "policy planning," with attendant implementation devices, it may be helpful to provide a brief and simplified overview of major concepts and components of the system that are discussed in detail in the following report: policy planning and the "Policy Plan"; the Interdisciplinary Team; public participation and the Citizen Advisory Committees; staffing; legal devices for land use control; and positive community planning programs. None of these concepts are brand new, but they have not previously been arranged just this way in a land use decision-making system.

a. Policy Planning -

Policy planning involves a set of devices and institutional processes for combining political considerations and scientific/technical information about the human and non-human environment to establish and implement environmentally responsible community goals. By "political" is meant the expression of citizen concerns, goals and aspirations for their community and their individual lives; it is not to be construed in the often negative context. In traditional planning and land use decision making, decisions are based exclusively on human desires and human goals--whether those of corrupt officials, insensitive politicians or democratically organized citizen associations. In other words, land use and resource management decisions are based primarily on a public opinion that is often uninformed, insensitive to environmental needs, and ecologically ignorant. LUDMS attempts to correct this situation not by eliminating the political element, but by *informing* and *supporting* it with valid and reliable scientific and technical data about the community or the region. The product which results from the complex and continuing interaction between concerned citizens, public officials, planning staff, and an interdisciplinary team of scientists and technicians is called the "Policy Plan." It is a political *and* scientific statement of community goals and the policies needed to carry them out.

b. The Interdisciplinary Team--Scientific and Technical Data -

The National Environmental Policy Act (NEPA) mandates that all agencies of the Federal Government in preparing "environmental impact statements" are to "utilize a systematic, *interdisciplinary* approach which will insure the integrated use of the *natural and social sciences and the environmental design arts.*" (Emphasis added.) Even though in most (but not all) cases this is not required of local and regional planning efforts, it is a procedure that must be followed if land use decisions are to have any valid ecological and environmental basis. From a legal standpoint, land use control devices (permit systems, zoning, subdivision regulation, building codes, etc.) that are based on sound scientific and technical data and not merely on "public opinion" will have a vastly improved chance of being supported both by the community and by the courts. LUDMS proposes that communities and regions hire or enlist as volunteers individuals who are expert in various scientific and technical disciplines, including but not limited to: geology, ecology, biology, sociology, economics, law, architecture, landscape architecture, and regional planning. The interactions of the members of the Interdisciplinary Team (IDT) between themselves and with elected officials and citizens should result in a much more logical and defensible Policy Plan than would otherwise occur. The fact that many smaller communities have severe budgetary limitations for such a process does not alter the need for scientific and technical information in planning and land use control.

c. The Environmental Resources Inventory and Analysis -

The major function of the IDT as proposed in LUDMS is to conduct a community-wide Environmental Resources Inventory and Analysis (ERIA) which will form the scientific and technical basis of the Policy Plan as well as the legal implementation devices. The ERIA as proposed is not confined to bird counts and a consideration of trees, grass and flowers. Its major study components are *biophysical* (geology, soils, geomorphology, plant ecology, animal ecology, climatology, air quality, etc.) and *sociocultural* (scenic resources, recreation resources, cultural and historic resources, economic base, community facilities, etc.). To accomplish the ERIA, the IDT would rely on both developed and existing data. As a tool for policy planning, the ERIA is not to be construed as a project-oriented "environmental impact statement," although possible "impacts" of alternative futures for the community would be examined as part of the process.

d. Public Participation--the CAC's -

"Public participation in the decision-making process at the earliest possible stages of planning" has become a popular slogan with Federal and state governmental agencies and with local planning commissions, among many other public bodies. It is something everybody talks about but few translate into action programs. The idea of utilizing Citizen Advisory Committees (CAC's) to advise governmental functions is not new; there are thousands of such committees scattered in all branches of government throughout the country. Citizen participation has been tried **unsuccessfully** by some agencies and officials, such as the Model Cities program. Other agencies, such as the Corps of Engineers with its "fishbowl" planning, have a strong commitment to citizen participation. The LUDMS proposal of interweaving the CAC's, the IDT, the planning staff, and the planning commission in one systematized process resulting in the Policy Plan is a somewhat different concept. Whether or not it will work will, of course, depend on a number of factors: organizational ability of the leaders; quality and level of knowledge of participants; managerial capability of the planning staff; receptivity of the planning commission to "outside" opinion; sensitivity of elected officials to the desires of citizens they represent; and other factors. LUDMS cannot provide a formula for a model CAC. CAC's will be as diverse as the communities which spawn them. But continual citizen involvement in the process "from beginning to end" is imperative if LUDMS is to succeed.

e. Staffing -

Enlisting a community staff of professional planners and assistants is not a new idea either, in and of itself. Planning staffs--and consultants--have been around for a long time. Frequently, they are so embroiled in zoning variances, building code enforcement and politicking with members of the city administration that they never arrive at a plan for the community. The critical staff component for LUDMS is not just more regional planners, architects, or landscape architects; it is the need for staff members who can *translate* and *communicate* technical information to the CAC's, the planning commission, and elected officials. They could be journalists, sociologists, psychologists or lawyers as well as representatives of traditional planning disciplines. For small communities with tight budgets, it may be up to one extremely talented staff member to do it all. The key ingredients for staff should be holistic thinking and understanding of ecological principles.

6. Legal Devices for Land Use Control

Billions of dollars have been expended for local, regional and even statewide planning in the United States--much of it through the "701" program of the Housing Act of 1954--to no avail because the master or comprehensive plans have never been implemented with tough and enforceable land use controls. It has been well documented that traditional zoning simply has not worked. LUDMS proposes two alternative land use control devices: (1) zoning and subdivision regulations which have been adapted to the scientific and technical data developed by the IDT and which are part of the legal codes and ordinances; and (2) a permit system which analyzes all proposals for development to determine if they can or cannot comply with the Policy Plan. Model local and state codes are contained in the appendices to this report. In addition to these two basic legal strategies, the report describes in detail other legal devices, including easements, covenants, transfer of development rights, and power of eminent domain. The major thrust of LUDMS in this area is: the Policy

Plan can be implemented by a carefully conducted orchestra of legal devices; it need not depend on only one or two instruments.

f. Positive Community Programs -

All land use regulation under the police power of the community or under eminent domain (where just compensation is paid for a taking of property) is considered oppressive, arbitrary, and capricious and inimical to the free enterprise system. Even though LUDMS, if properly applied, can greatly mitigate against arbitrariness in planning and control, it would still be desirable to implement the Policy Plan with positive and even voluntary community programs where possible. A wide range of such devices is considered in the report: outright purchases of open space; greenbelting; acquisition of "development rights" retaining the fee in the landowner; scenic and conservation easements; new towns; transfer of development rights; buying and selling land for community benefits; and new kinds of community development corporations. There are many other possibilities which will vary from community to community. Capital improvement programs are also discussed as a means of implementing the Policy Plan.

3. The Relative Roles of Local, Regional, State and Federal Government

It has already been pointed out that the Federal and state governments have begun to exercise a much more active role in land use matters because local governments have generally abdicated their traditional responsibilities. Nevertheless, LUDMS is proposed primarily as a land use decision-making system for *local* government. For the purposes of LUDMS, "local" is defined as village, town, city, county, or as a multi-jurisdictional region. The term "community" as used in the report refers to any of the local jurisdictions defined above. While LUDMS could be logically extended and adjusted to apply to a statewide Policy Plan, the system proposed has "local" governmental entities primarily in mind.

Numerous books and articles have been written about the benefits--and some of the drawbacks--of regional government. Such a treatise will not be attempted here. It is logical to assume, however, that the fracturing of America into thousands of townships, cities, counties and special districts has resulted in governmental chaos, financial bankruptcy for many communities, and environmental mayhem on a large scale. But while everybody talks about "regionalism," comfortably ensconced local politicians have successfully fought it off for a number of years. These are probably the major reasons that the states and the Federal Government are assuming stronger roles in land use.

Few can agree on the relative roles of various levels of government in land use matters. The conservative approach favors keeping land use planning and control at the lowest possible level of government, while the liberal approach is toward strong state and Federal control. Since local governments have generally been ineffective in land use control efforts, the real estate development industry appears to favor local control and to be adamantly opposed to state and Federal interference. On the other hand, some writers have observed that the liberal approach to land use control will not work because state and Federal land use entities will be even further from the people most affected and even more subject to corruption and undue influence by vested development interests.

As an attempt at compromising the extreme positions on all sides of the jurisdictional controversy, LUDMS proposes the following roles in land use planning and control for Federal, state and local (as defined) governments. In brief:

Federal Role

-- identify the "limiting factors" of growth and development on a national basis;
-- establish minimum criteria and guidelines for land use planning and land use regulation for state and local governments;
-- establish guidelines for land use planning methodologies and procedures;
-- provide financial assistance and financial incentives to state and local governments for planning and land use regulation;
-- conduct a National Environmental Resources Inventory and Analysis with data stored in regional data banks;
-- establish emergency procedures to halt major developments that may threaten an irretrievable loss of irreplaceable resources;
-- develop programs and policies to encourage intra-state and inter-state regional planning;
-- identify areas of national environmental concern, including but not limited to estuaries, coastal areas, rare and endangered species habitat, national wilderness areas, and unique ecosystems; and
-- assist with planning and financing of new communities.

State Role

-- develop statewide land use plans;
-- identify and develop land use planning and control requirements for matters of statewide concern, including but not limited to estuaries, rare and endangered species habitat, unique ecosystems, recreation and scenic resources, and major developments with more than local impact;
-- establish minimum criteria and guidelines for land use planning and land use regulation for local government consistent with Federal criteria and guidelines;
-- provide financial assistance and financial incentive to regional and local government for land use planning and regulation;
-- conduct a statewide Environmental Resources Inventory and Analysis and coordinate with national, sub-state regional, or local inventories; and

-- establish emergency procedures to halt major developments which may threaten an irretrievable loss of irreplaceable resources or which may threaten human life, health, or property.

Local Government

-- develop community-wide or region-wide Policy Plans consistent with minimal state and Federal requirements;
-- identify and develop land use planning and control requirements for matters of community or regional concern (see Federal and state roles);
-- conduct a community or regional Environmental Resources Inventory and Analysis and maintain the information base for public decisions and as a service to private parties in the community;
-- develop legal procedures and community programs for implementing the Policy Plan.

Obviously, local governments can recapture the initiative and control much of their own destinies by developing and implementing programs and legal requirements that go far beyond the minimal criteria and guidelines established by state and Federal entities. However, unless those state and Federal minimum performance standards are established, it is extremely doubtful that local governments will do any more than follow the same old tradition of inaction and ineffectiveness in land use matters.

The type of planning and the use of the IDT recommended in LUDMS entails a cost which may be higher than a county or a town may be able to afford or may wish to pay. For this reason, a logical approach would be to utilize regional planning districts, which would be the same as the "clearinghouse" districts in the Office of Management and Budget Circular A-95 process, as the basis for the IDT operation. Multi-county funding would then be available for the IDT, and this aspect of the planning would then be regional.

LUDMS could be used at the local level; there should be a regional mechanism for the roles described to deal with environmental matters and impacts which transcend local jurisdictions and to serve as a balancing mechanism where different local governments have competing goals. LUDMS could be used at the regional level, with the majority of controls being left in the local jurisdictions.

C. PRINCIPLES OF ECOLOGY

"Ecology" is derived from the Greek "oikos," meaning place to live or habitat. Simply stated, ecology is the study of the interrelationships of organisms to each other and to their environment.

The science of ecology is vitally related to the making of environmentally responsible and economically viable land use decisions. The principles of ecology are practical tools for making better land use decisions from a social, environmental and economic standpoint. It is erroneous to believe that such decisions can be made by politicians and public opinion alone. Most environmental laws, such as the Clean Air Act, and most governmental agencies do not utilize ecological principles. The existence of an Environmental Protection Agency or the writing of an environmental impact statement does not mean that ecologically responsible decisions will be made.

To focus definitively on the scientific meaning of the word:

(1) Ecology is the science that studies the dynamics of the ecosystems of the landscape.

(2) Ecology is a discipline that studies the processes, interactions, and dynamics of all living things with the chemical and physical features of their surroundings and with each other, including the economic, social, cultural, and psychological aspects peculiar to man.

(3) Ecology is an integrative, interdisciplinary study that must, by its very nature, synthesize information and understanding from most, if not all, other fields of learning--meteorology, geology, anthropology, sociology, hydrology, economics, psychology, mathematics, physics, chemistry, political science, philosophy, religion, jurisprudence, to say nothing of the many subdisciplines.

(4) Ecology is also a viewpoint, a way of looking at the world holistically.

Because it is sometimes misconstrued, it is well to state what ecology is *not*:

(1) Ecology is *not* environment.

(2) Ecology is *not* a living place.

(3) Ecology is *not* an emotional dislike of the industrial or technological aspects of modern society.

The science of ecology's observations, experiments and analyses indicate that there are definite principles which govern the dynamics of the earth's systems. The intricate functioning of earth's ecosystems has proceeded without man's assistance for perhaps three billion years under the guidance of these principles. Different ecologists will have different approaches, but there is relatively uniform acceptance of basic principles.

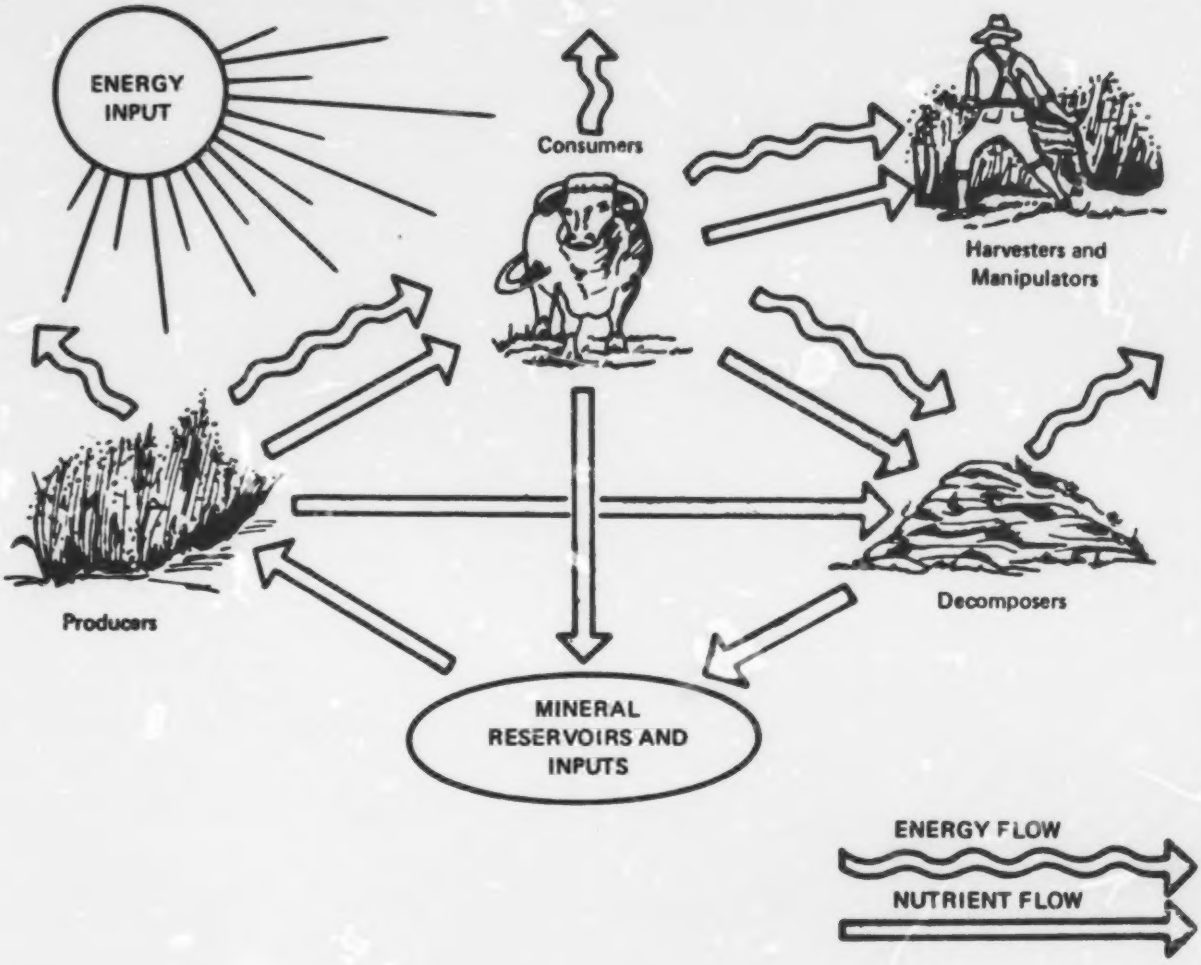
ENERGY INPUT
Consumers
Harvesters and Manipulators
Producers
Decomposers
MINERAL RESERVOIRS AND INPUTS
ENERGY FLOW
NUTRIENT FLOW

Figure 1. A Schematic Illustration of Pathways of Flow of Energy and Matter through a Terrestrial Ecosystem.

Source: Van Dyne, G. M., 1969. "Some Mathematical Models of Grassland Ecosystems," P. 6, in R. L. Dix and R. G. Beidleman (ed.), "The Grassland Ecosystem: A Preliminary Synthesis." Range Science Department Science Series No. 2, Colorado State University, Fort Collins, Colorado.

The principles of ecology affect land use decisions, whether they are recognized or not. The use of the principles of ecology in land use management is essential, but it is not possible to study all relationships and all ecosystem operations before decisions can be made. A feasible and realistic approach is to examine critical areas and matters. Some of these can be identified without study, although ecological investigations are usually needed to find out how a critical ecosystem works and what should be done to maintain its stability and function. Water-related ecosystems are generally critical areas anywhere, in any major life zone. Streams, lakes, wetlands, aquifers and estuaries could all be considered critical. Transitions between two ecosystems are usually very important; these are "edges" or smaller ecosystems called "ecotones." At these locations, life is usually more diverse, and each ecosystem may be important to many forms of life. The shallow part of a lake, where sunlight penetrates to the bottom and myriad life forms occur, is very important to the life in the rest of the lake--the big fish. It is important to many terrestrial creatures which feed in shallow waters. The edge of a forest is as important to browsing animals as is the entire forest.

Other critical areas may be related to fragility or stability. Geological conditions of hillsides often are in delicate balance, and any slight change of water, vegetation, or loading or cutting of the hillside may cause a slide or movement. Some ecosystems are fragile because disturbance will lead to permanent change or recovery may be slow (decades or centuries). These should be considered as critical in terms of the degree of management or control. Some are critical because a slight chemical change, such as chlorine in a river or pollutants in the air, may cause the biota to change due to very sensitive limits or tolerances. Other areas may relate to human values--scenery, history, neighborhood, recreation, commercial productivity--and should be managed as "critical" areas.

Dr. Eugene Odom has a persuasive and cogent comment on ecology and land use:

> When the human population of an area is small, poor land use may affect only the people who are guilty of bad judgment. As the population increases, however, everyone suffers when land is improperly used, because everyone eventually pays for rehabilitation or, as is now too often the case, everyone suffers a permanent loss of resources. For example, if grasslands in regions of low rainfall are plowed up and planted to wheat (poor land use), a "dust bowl" or temporary desert will sooner or later be the result. Rehabilitation is expensive, and all of us as taxpayers will have to pay. If the grass cover is maintained and moderately grazed (good land use), no dust bowl will be likely to develop. Likewise, if the lack of local zoning restrictions allows houses and factories to be built on flood plains (poor land use), then damage to such investment is inevitable (or can be avoided only by expensive flood control structures). If, on the other hand, flood plains

are used for recreation, forestry, or agriculture (good land uses), money is added to, not subtracted from, tax dollars. Land use is thus everybody's business, and *the application of ecological principles to land-use planning is now undoubtedly the most important application of environmental science.*

So far, good land-use planning has come only after man has first severely damaged a landscape. It is as Leopold has said: Man does not seem to be able to understand a system he did not build and, therefore, he seemingly must partially destroy and rebuild before use limitations are understood.* (Emphasis by Dr. Odum.)

D. THE PROPOSED SYSTEM

The proposed land use decision system--LUDMS--is presented as a generalized method. It is a *process*. Rather than enumerate a number of fragments of regulatory devices, policies, types of data, specific design criteria or ecological zones, we have emphasized the systematized process whereby a local government can establish these matters for its local situation. Some parts will be discussed in greater detail than other parts, however.

The major LUDMS concepts were briefly described in the previous section. Fitting them together, interweaving them ensuring that the planning phase and the implementing phase are correlated and unified, and developing a systematic sequence has been the research task. This system is ideal and "universal," i.e., it was not built around any specific regional or governmental structure. It will need some adaptation to existing laws and organizations in applying it.

The basic structure of LUDMS is shown in Figure 2. It flows over time from left to right. A critical activity is the adoption of the Policy Plan (set of policies). Figure 2 does not show all the detailed steps or linkages between the elements of the system. These will be described in the simplified discussion in following sections of this report.

The reader is reminded that the primary purposes of the system are to: (1) ensure that reliable environmental data is acquired and actually used in all decisions on land use (which is the basic source of many environmental problems); (2) to have such decisions understood and supported by the public which is affected, and (3) to have legal mechanisms, defensible in court, for controlling and implementing actions which affect the human environment.

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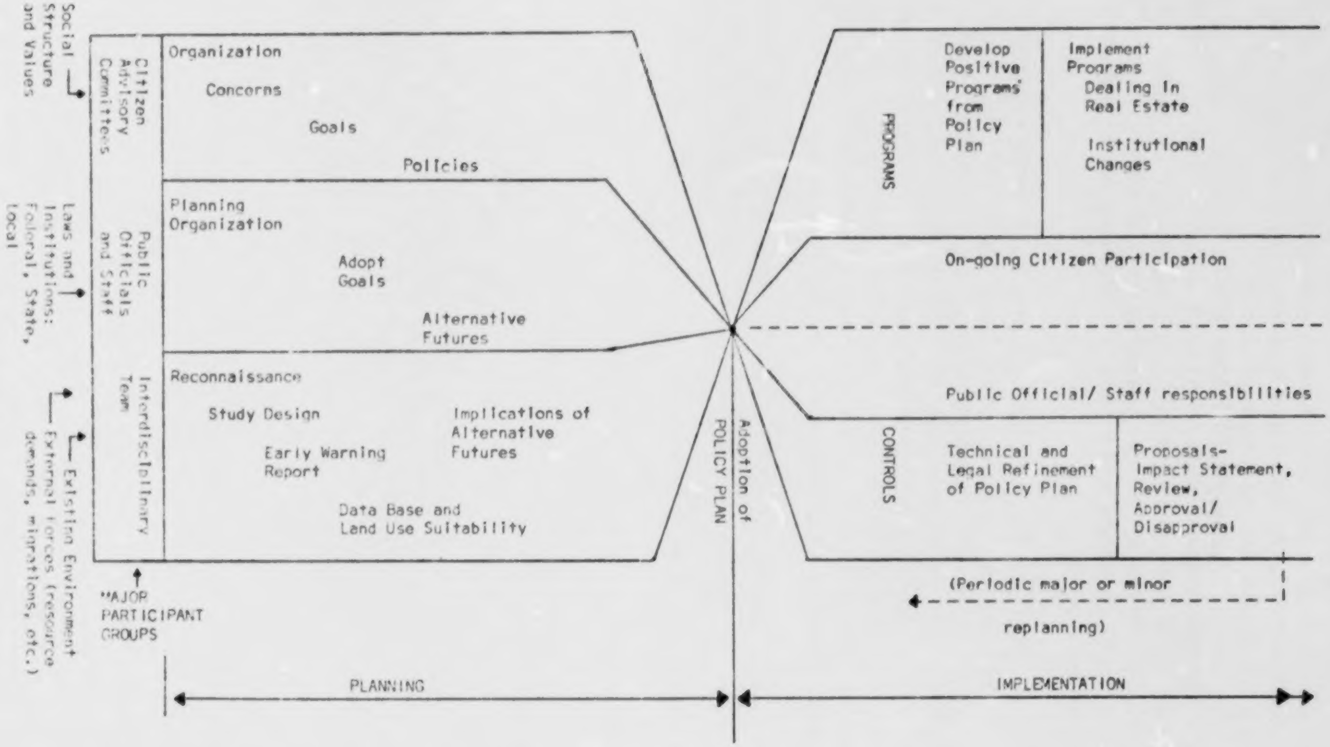
* Fundamentals of Ecology, Third Edition, by Eugene P. Odum, W. B. Saunders and Company, Philadelphia, 1971. P. 420.


Citizen Advisory Committees
Organization
Concerns
Goals
Policies
Public Officials and Staff
Planning Organization
Adopt Goals
Alternative Futures
Interdisciplinary Team
Reconnaissance
Study Design
Early Warning Report
Implications of Alternative Futures
Data Base and Land Use Suitability
Social Structure and Values
Laws and Institutions: Federal, State, Local
Existing Environment
External forces (resource demands, migrations, etc.)
INITIAL CONDITIONS
MAJOR PARTICIPANT GROUPS
Adoption of POLICY PLAN
PROGRAMS
Develop Positive Programs from Policy Plan
Implement Programs Dealing in Real Estate
Institutional Changes
On-going Citizen Participation
Public Official/ Staff responsibilities
CONTROLS
Technical and Legal Refinement of Policy Plan
Proposals-Impact Statement, Review, Approval/ Disapproval
(Periodic major or minor replanning)
PLANNING
IMPLEMENTATION

Note: Only major steps are shown in this figure. Links between steps are not shown here, but are described in text and other figures.

Figure 2. The Planning and Implementation Process for Environmentally Responsible "Land Use Decision-Making System."

The research on LUDMS was not intended to cover three major categories of subject matter on land use. A complete enumeration of all Federal laws and programs relating to land use and the environment was not developed. Some of these are sources of funds for planning and programs. Some could be the basic framework for comprehensive planning, such as the 1972 Amendments to the Federal Water Pollution Control Act. Others could be integrated (as in a transportation-land use study) or woven in, as would be possible in transportation planning requirements under "Action Plans" conducted in accordance with Federal Highway Administration Policy and Procedure Memorandum 90-4.

Another type of subject matter not covered in this report is energy and materials use. This would include recycling, conservation, renewable energy sources, pollution control technology and transportation technology. Chemicals such as herbicides and pesticides which have become a factor in American land use (and abuse) would be in this category. Recycling of sewage nutrients in land treatment would also be included. True environmental quality--man in harmonious balance with his total environment--must include vigorous progress in this matter.

This report does not devote attention to urban design and the shaping of urban form. Urban design is the creative process of arranging physical form, space and human activity. Its purpose is to provide functional arrangements, aesthetic quality, appropriate social contact, and responsible use of environmental constraints and opportunities. It is people, activity, transportation, and physical features in a four-dimensional context. It is more than a two-dimensional plan or map. It may be intensely urban such as a neighborhood, business district or industrial zone. It can also be rural: a mountain home subdivision, a rural roadside business area, a recreational facility or complex, a mountain park.

Urban design is essential in maintaining environmental quality, and is an integral part of this system. It involves both inventory and analysis, and is most heavily involved in the development of criteria and guidance in decision implementation. It is often a forlorn and forgotten art in land use, but indeed epitomizes the problem of various disciplines working together: here, in implementing decisions, the hydrologist, climatologist, ecologist, engineer, planner, architect and others must integrate and meld their concerns to create a new environment, hopefully harmonious with nature and enhancing the many human experiences which will occur in the new environment for decades to come.

Urban design should offer a new way of thinking about some of the basic problems of man and his finite resources. Time is growing short for society to redirect its efforts toward a new pattern of resource consumption, toward a sustainable relationship with its environment. What is the role of an individual community in this effort? Does each community have a responsibility to recycle materials, to conserve energy and use renewable energy instead of non-renewable energy? Can communities be created which are not heavily dependent on the car? Can higher densities actually improve the chances for better social relationships as well as leading to energy conservation? Can pollution be avoided rather than merely controlled?

There is strong evidence that these questions must be answered, not merely by the nation, but by each individual and each community, and they must be answered soon. The members of the interdisciplinary team, the citizens and officials can all be involved in a creative process regarding their community. Each town and region should seek to develop as a community of the future. The nation at present is living with the built-in determinants of the past. Some of these go back to Colonial days in the location and design of towns. Each decision today will shape a future that others must live with, perhaps for centuries. Can that future be predicated on the finiteness of man's resources, on the limited ability of ecosystems to sustain impacts? The urban design process should strive for great creativity in this respect.

SECTION IV

POLICY PLANNING

LUDMS involves the development of a Policy Plan which represents the culmination of the planning phase and at the same time constitutes the basis of implementation in legal and action mechanisms.

A. TERMINOLOGY

The following terms are used in the LUDMS policy planning phase. Some are redefinitions, based on an ecological thought process, of terms traditionally used in planning. "Community" is an example: the researchers recommend that such terms be thought of in the framework of man as an organism in a biophysical environment.

Glossary of Terms

Community - Setting within which an individual interacts and where the basic and most significant direct and indirect factors which affect his life are centered.

Holistic - Total, comprehensive, interrelated, including all components of the system which comprises the human environment.

Planning Commission - Established regional or local governmental body, or if none exists, the elected governing body of the local jurisdiction.

Interdisciplinary Team (IDT) - Team of specialists from various scientific and technical disciplines who do environmental resources inventory and analysis.

Citizen Advisory Committee (CAC) - Appointed or voluntary group which assists in defining community goals and creating the policy plan.

Policy Plan - Written statement of environmental (biophysical, social, economic) and governmental considerations which will guide the future of the community.

Community Concern - Statement of a problem, or need, perceived by a participant in the planning process as relating to the community.

Goal - Restatement of community concern in a positive way as an expression of citizen desire for the community's future, or as a solution to existing problems.

Study Design - Detailed outline of what will be studied by the IDT, and how the study will be conducted.

Imposed Policies and Standards - Policies established in Federal or state laws which must be taken into consideration in the community planning process.

Early Warning Report - Identification by the IDT of problems, factors or areas of most significance which should receive major attention.

Trade-off - Satisfaction of one goal at the total or partial expense of another.

Alternative Futures - Potential outcomes of adoption of each of several sets of policies; scenarios which describe what a community could be like in the future.

Policy - Specific statement of the kind of actions which will lead to attainment of community goals.

Finding - A subdivision of an adopted policy which states that a proposed land development activity does or does not implement a particular policy.

Standard - A technical measure, yardstick, or gauge against which performance is quantified.

Technical Review - Process of determining if standards have been met.

Impact Statement - Evidence submitted with a development proposal outlining the possible environmental effects.

Information Overlay Map - A base map with one or more clear overlays for each environmental component.

B. SYSTEMATIC STEPS IN POLICY PLANNING

The development of the Policy Plan involves three basic groups of people: (1) elected and appointed public officials and staff, including the planning commission; (2) an interdisciplinary team (IDT); and (3) Citizens Advisory Committees (CAC's). The public officials will include those who are politically and legally responsible. In the entire LUDMS system, the emphasis will be on a "Planning Commission" as the focus of activities. Their ultimate powers are limited, and the officials to whom they report (County Commission, Mayor/Council, etc.) are to be directly involved in LUDMS. This involvement in general is where formal adoption/decisions must be made and where information and "constituent and accountability" linkages are important. A harmonious interaction and working relationship between the three groups of actors is essential.

The following is a brief summary of the proposed steps in policy planning which are detailed in this section. The numbers here do not refer to a sequence, but rather to a task. In sequence, several tasks may occur concurrently and may be interrelated.

1. Develop a Staff.
2. Organize the Citizens' Advisory Committees.
3. Establish an Interdisciplinary Team (IDT).
4. Review Existing Data.
5. Hold First Meeting(s) of the Citizens' Advisory Committee(s).
6. Analyze Existing Land Use Decision-Making System.
7. Identify Community Concerns.
8. Relate Community Concerns to the IDT Study Design.
9. Hold IDT Organizational Meeting and Field Reconnaissance.
10. Integrate the CAC's and the IDT.
11. Finalize the Study Design.
12. Review the Study Design.
13. Adopt the Study Design and Commence Environmental Resources Inventory and Analysis.
14. Set Community Goals.
15. Prepare IDT "Early Warning" Report.
16. Integrate and Refine Community Goals.
17. Rank the Goals.
18. Report on Environmental Resource Inventory and Analysis.
19. Adopt Community Goals.
20. State Policies Needed to Achieve Goals.
21. Conduct a CAC Review of Policies.
22. Describe Alternative Futures for the Community.
23. Study Impacts of Alternatives.
24. Review the Alternative Policy Plans.
25. Adopt the Policy Plan.

These steps are described in greater detail as follows. Figures 3, 4, 6 and 7 show how they are linked and related in sequence.

1. Develop a Staff. The first action of the planning commission is to hire a planning staff if they do not already have one. The size of the planning staff will vary considerably, depending upon the population of the jurisdiction, the budget of the planning commission, and the type and amount of development pressure which it is experiencing. Ideally, a planning staff would include individuals with education and experience in a range of specialties, including physical sciences, biological sciences, engineering, economics, regional planning, sociology, urban design, and communications arts. Too often, traditional staffing has not included the ecological or biological competence needed for environmental responsibility.

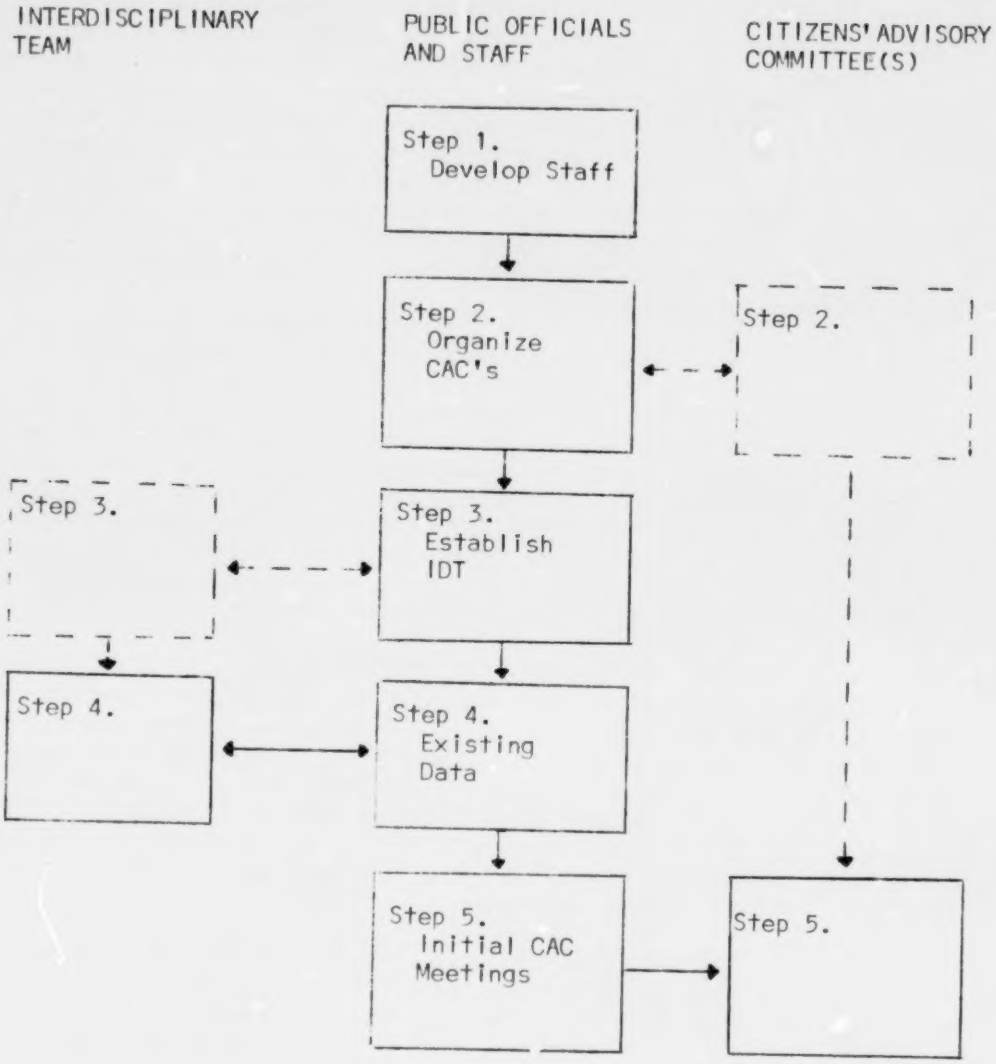

INTERDISCIPLINARY TEAM
PUBLIC OFFICIALS AND STAFF
CITIZENS' ADVISORY COMMITTEE(S)
Step 1. Develop Staff
Step 2. Organize CAC's
Step 2.
Step 3.
Step 3. Establish IDT
Step 4.
Step 4. Existing Data
Step 5. Initial CAC Meetings
Step 5.

Figure 3. Policy Planning Organizational Steps

Members of the staff engaged in the policy planning process should not be required to undertake detailed technical studies in specialized areas; this is the job of the Interdisciplinary Team. The staff would, however, be required to understand the technical information, know how to integrate component information, and be able to translate and communicate information in a form useful to the Planning Commission and members of the Citizens' Advisory Committee. Thus the staff need not be expert in economics or ecology, although they must understand how an economist or an ecologist perceives and analyzes the community. The staff must also help in stating legal phraseology about the environmental characteristics described by technical specialists.

Staff members should be good communicators. A staff journalist would be a great asset. If there is one most critical element to the development of a Policy Plan, it is the *intercommunication* between those developing data and technical information and those articulating the concerns and goals of the community. This intercommunication is a prime responsibility of the staff. The staff must be responsible for taking the expressions of the Citizens' Advisory Committees, the technical information of the Interdisciplinary Team, and the interactions between them, and stating them so that they can be used by those who are actually making decisions: the members of the Planning Commission and the elected public officials.

Once the staff has been hired, their first task will be to collect technical data and information which already exists about the community, including Federal and state requirements and programs. If the community already has a comprehensive plan, whether it has been adopted or not, it probably contains most of this information. However, updating may be necessary because many communities with plans developed under the "701" planning process of the Department of Housing and Urban Development (HUD) do not reflect new laws such as the Clean Air Act and the 1972 Amendments to the Federal Water Pollution Control Act (FWPCA).

It must be recognized that many villages, municipalities and counties with small populations and negligible tax base cannot afford to hire a staff planner without state or Federal financial assistance. In such cases, state and Federal funding would have to be solicited either for a staff planner(s) or, as an alternative, a consultant from a college, university or private consulting firm. Also, small planning staffs in smaller communities may wish to strengthen their staff capability by using temporary staff and/or consultants during the policy planning process. It is extremely doubtful if volunteers could perform in this capacity. Professional assistance of some kind is an imperative. This "small-community" financial problem, along with required processes such as the A-95 Clearinghouse function, constitutes a strong case for the establishment of a planning region, a regional commission with the staff described herein, and the use of the IDT at the regional commission level.

2. Organize the Citizens' Advisory Committees. Any community planning program which has been funded in part through a grant from the Federal

Department of Housing and Urban Development pursuant to Section 701 of the Federal Housing Act of 1954 is required to set up Citizens' Advisory Committees as part of its planning program. In many cases, the Citizens' Advisory Committees are established only to fulfill the requirements of the Federal grant; they often do little more than ratify the work of professional planners and planning commissions, or HUD may consider a planning commission to comprise full citizen participation. Increasingly, Federal legislation (e.g., the FWPCA '72 Amendments, Executive Order 11514, and Federal Highway Administration Policy and Procedure Memorandum 90-4 (the "Highway Action Plan")) requires public participation. In the LUDMS policy planning process, Citizens' Advisory Committees have a vital, integrated role from beginning to end. Thus how they are constituted and "administered" is of critical importance.

a. Define the jurisdiction of the CAC's. A CAC should be established for each "neighborhood" in a larger community, or for each small community in a region. Thus, before any CAC's can be established, *neighborhood* boundaries should be identified on a map of the community.

A neighborhood can be characterized as *a small geographic area with one or more overriding homogeneous elements*. An element can be almost anything which produces a common experience for the people who live within the area. It can be a social factor (such as a general condition of affluence or poverty, or common ethnic background), an economic factor (such as a common employment base), or an environmental factor (a unique or discrete ecosystem such as a mountain valley or watershed, or, in an urban area, the identification of a neighborhood by a prominent landmark or park). Richard N. Goodwin, writing in the January 28, 1974 *New Yorker* magazine, describes some of the elements of the concept of neighborhood:

> It must exist within an area that can be comprehended by the census--a place whose roads and shops, landmarks and physical hazards, each inhabitant can know. It can be part of a much larger whole, as older city neighborhoods were, but it must nevertheless be distinguishable to its inhabitants. All the material benefits of a community derived from this physical base. . . .
>
> Community is a corner of society in which the individual can feel some confidence of acceptance on fairly honest terms and can maintain a continuing association with others, whose familiarity is comforting. . . .It relieves us of the need continually to prove our worth or to seek reassurance of that worth. It diminishes the destructive social process of judging and being judged, which cripples our capacity for thinking and not acting freely and with honesty. Members of a community may not be friends, but they are not strangers.
>
> The relationships of community also provide that sense of shared purpose and shared concerns which is elemental to the

concept of society itself. All the other components--culture, language, ideology, economic process, political structure--have crystallized around this nucleus.

b. Appoint the Citizens' Advisory Committees. Once the boundaries of each neighborhood or CAC community have been established, the next step is to appoint the Citizens' Advisory Committee(s). While there is no magic formula, several approaches can be suggested. A first step might be to contact influential community leaders--those people who are widely known and who have successfully completed community service projects in the past. Another step might be to conduct a campaign in the media--radio, television, and the newspapers--which contains the same information and appeal. Yet another might be to retain a consulting firm of community organization specialists.

3. Establish an Interdisciplinary Team (IDT). The purpose of the IDT is to provide reliable scientific and technical data for the policy planning process. Each member of the IDT should be familiar with community conditions in the region as they relate to his or her area of expertise. It is desirable to use professionals who have considerable experience in the ecosystems, economic factors, social conditions and values of a region.

The IDT member should be capable of relating well with other disciplines. An analysis of the interaction of environmental components is accomplished primarily through a structure interaction between members of the IDT.

The IDT members will not be going through an academic exercise; their purpose is to provide information upon which to base *real* land use decisions in a *real* community. It is their responsibility to ensure that the information and analysis which they develop will be useful and legally defensible in decision making. They should be capable of explaining to citizens and officials what they are doing and why it is relevant. They should plan for a considerable amount of field work over several seasons.

Ideally, the IDT would include professional specialists capable of dealing with each component. At a minimum it would include the following:

a. Physical Sciences

-- environmental geologist for bedrock geology, soils, geomorphology
-- climatologist for environmental aspects of climate, air pollution measurement and modeling
-- hydrologist for surface and subsurface hydrology, including water quality.

b. Biological Sciences

- -- plant ecologist for vegetation
- -- animal ecologist for large mammals, small mammals and birds
- -- aquatic biologist (limnologist) for aquatic ecosystems; if both fresh and oceanic systems exist, a limnologist and a marine biologist may be needed.

c. Human Systems

- -- regional planner
- -- sociologist
- -- economist
- -- architect
- -- landscape architect
- -- recreation specialist
- -- lawyer, familiar with environmental and land use law.

Additional team members may include:

- -- civil engineer (urban infrastructure and utilities)
- -- acoustical engineer
- -- public health specialist
- -- demographer
- -- archeologist
- -- historian
- -- agronomist

4. Review Existing Data. By the time the IDT has been enlisted and the Citizens' Advisory Committees are in the process of organization, the existing data about the community should have been assembled by the staff. Since it has been generated by many different agencies for many different purposes and at different points in time, the staff should condense it and make it available to the IDT. Also, the staff should prepare data presentations for the planning commission and the Citizens' Advisory Committees.

It is important to attempt to determine the reliability and completeness of the existing data. The staff and the IDT should review the various reports and maps available and, based on their familiarity with the community, should estimate the additional information which will be necessary to do a thorough inventory and analysis. A critical point is how much field investigation has been done and under what circumstances. If good hydrologic studies have been done by the U.S. Geological Survey, for example, this work need not be repeated by the IDT. Information on remote sensing, air and water quality studies, and similar factors should be assembled. Particular attention should be paid to the various requirements placed on the community by Federal and state laws, regulations, and conditions placed on matching grants.

The staff, IDT and CAC's, early in the process, should seek to identify outside forces or pressures. Too many communities seem to be unaware that their ocean front is a potential marina, that their coal may be strippable, that their hills may be skiable. The information should be developed into a presentation to a Citizens' Advisory Committee. The presentation could take several forms, such as "fact sheets," audio-visuals, maps or other communicative devices. These have an important function in the process of articulating community concerns and committee goals by the Citizens' Advisory Committees: they serve as a common bond and common starting point for every person who participates in the Citizens' Advisory Committee process. Throughout the policy planning process, the staff should be developing materials and information which are used in each Citizens' Advisory Committee meeting.

5. Hold First Meeting(s) of the Citizens' Advisory Committee(s). The purposes should be: to give the participants a chance to get to know each other; to begin consideration of the geographical dimensions of their community; and to gain an understanding of the planning process and the social, environmental and economic importance of the development of a policy plan and technical information.

A member of the staff should be assigned the task of assisting the CAC. Fact sheets, slide shows, and maps of the community could be used in presentations.

The first meeting could have a discussion of the relevance of local government jurisdictions to the geographical pattern of the daily activities of the participants relative to the goal which considers the interrelationships of human and natural phenomena in the area. Participants could be asked whether any changes should be made in the boundaries of the CAC neighborhood. The staff and commission could adjust any boundaries.

6. Analyze Existing Land Use Decision-Making System. Before the next CAC meeting, the staff should develop an analysis of the existing land use decision-making system and its basis. Is there a zoning ordinance, and are "uses by right" subject to any review for environmental impacts? Are there other land use regulations? Is there a capital improvements program, and does it provide for mass transit, parkland acquisition, or neighborhood facilities? What is the status of resource development in the region, of air and water quality controls? What is required before land can be rezoned?

7. Identify Community Concerns. It is critical that participants in the CAC's analyze their concerns about land use as it pertains to their daily lives. The concerns of *all* the participants must be articulated and the land use implications pinpointed. Participants should examine the present land use decision-making system and analyze its adequacy for resolving the land use implications of their concerns. Indeed, this is a "concern" itself, and the ultimate addressing of this concern is a major purpose of the process.

These initial concerns about land use, community problems and development, the economy and the environment are the basis for evolution of official policies later in the planning process; hence, it must be emphasized that these are incipient legal actions. The foundations are being laid here for controls and actions in implementing plans.

8. Relate Community Concerns to the IDT Study Design. Community concerns, and their perceived implications for land use decisions, should influence the design of the study undertaken by the IDT. To expedite this process, the staff should develop an integrated statement of community concerns. This is an interpretive process: to some extent, each CAC will have developed its own view of the factors and the interrelationships which are at work in the community. The staff should develop an overview which aggregates these different perceptions on behalf of the entire community. To the extent possible, the community concerns should be expressed as *root causes* rather than *symptoms*. The implications for the IDT should be identified.

9. Hold IDT Organizational Meeting and Field Reconnaissance. A vital step in the organization of a good interdisciplinary study is the initial team meeting and field reconnaissance. The project manager should assemble the entire team for, at a minimum, a two-day work session. Arrangements should be made for an aerial and ground tour of the geographic area to be studied. Members of the CAC should be present and should participate. The purposes of the meeting are to:

-- discuss study objectives and end products
-- discuss proposed analytical approaches, including the analysis of interactions
-- determine general scheduling
-- review community concerns
-- provide for additional team members, if needed
-- analyze the geographic areas of study, the different study approaches, and the level of detail
-- discuss logistics, graphics, and administrative matters.

Following the meeting, each investigator on the IDT should independently develop a component study design. The component study design should include:

-- a statement of objectives
-- methods of study
-- personnel and equipment needed
-- schedules
-- logistics
-- budget

The component study designs must be integrated into a single total study design by the staff and the IDT project manager.

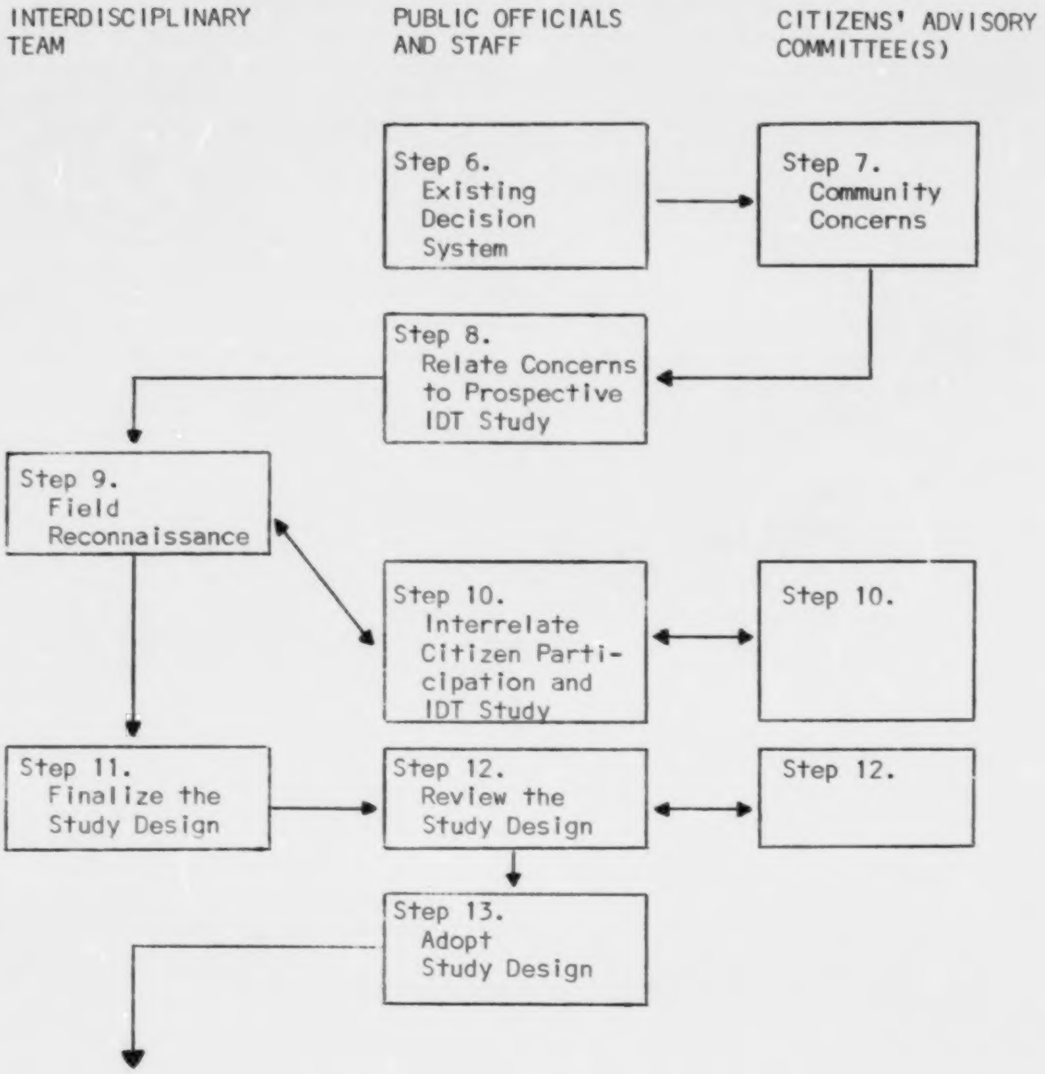

INTERDISCIPLINARY TEAM
PUBLIC OFFICIALS AND STAFF
CITIZENS' ADVISORY COMMITTEE(S)
Step 6. Existing Decision System
Step 7. Community Concerns
Step 8. Relate Concerns to Prospective IDT Study
Step 9. Field Reconnaissance
Step 10. Interrelate Citizen Participation and IDT Study
Step 10.
Step 11. Finalize the Study Design
Step 12. Review the Study Design
Step 12.
Step 13. Adopt Study Design

Figure 4. Policy Planning: Citizen Concerns and IDT Study Design.

10. Integrate the CAC's and the IDT. A primary methodology for the planning process is continuous interaction between professionals and citizens. This should achieve policy plan development leading to:

-- greater public understanding of and sensitivity to the environment and community dynamics;
-- policies which are relevant to the concerns of the community as expressed by citizens and electorate;
-- scientific and technical information which can be incorporated into legal devices for decision making; and
-- a balance between public opinion and scientific and technical information in decision making.

The staff can facilitate this by developing an arrangement for CAC subteams to meet and, hopefully, go into the field periodically with IDT members. In some components, such CAC-IDT interaction is imperative, as in defining social problems and their causes and possible means of attacking them. The preliminary component IDT study designs will help the staff in organizing this participation.

11. Finalize the Study Design. The project manager with input from the CAC and IDT should develop the final study design containing but not limited to the following elements:

a. A discussion of the root problems of the community and the community concerns which relate to them.

b. The study components described in detail, with study methods and objectives.

c. The method of integrating the components into the community inventory and analysis.

The study design developed by the IDT should demonstrate the importance of scientific study to environmentally, socially and economically responsible land use decisions. It should be a professional management tool.

12. Review the Study Design. Once the study design is finalized, the staff should reproduce it in sufficient quantity for review by public officials, the planning commission and the members of the CAC's. Review comments should be solicited and incorporated into the final study design. It is essential that the study design be well constructed and well thought out. Too many interdisciplinary studies go astray because of the lack of a good design.

13. Adopt the Study Design and Commence Environmental Resources Inventory and Analysis. A public hearing for approval of the study design might be held before it is approved and a contract awarded to the IDT for commencement of the study. See Appendix A for detailed discussion of the "Environmental Resource Inventory and Analysis" work by the IDT.

14. Set Community Goals. The CAC's should address their attention next to community goals. Discussions with the IDT have occurred and some community concerns have been identified. The planning process suggests continuous interaction, using the "subcommittee" approach, during the Environmental Resource Inventory and Analysis. At the next formal CAC meeting, which should wait until the CAC and IDT interaction is well under way, community concerns should be updated and an initial statement of goals undertaken.

Concerns are negative statements about problems in the community. *Goals* are positive statements about how the citizens would like to see the community develop in the future. At this point, the citizens will only be talking about community goals, not the process for achieving those goals. In particular, the members of the CAC should not be concerned at this point with apparent tradeoffs between the goals which they articulate. But, by the same token, they should use common sense about what they know about the community from the information already at hand: they and the staff should make sure that the goals that are articulated are within the realm of reason. Looking ahead, the goals will eventually be restated as policies, and legal status will be developed.

Citizens should articulate the "good" things about the community which should be preserved or enhanced in land use decision making. Particular attention must be paid to those features of the neighborhood--landmarks, parks, style of architecture, natural areas, wildlife, clean air, ethnic composition, or even the setting and surroundings of an important building--which are important. Although the scope of good things to preserve about the community can and should cover everything of value to the people in the larger community (such as the vitality of the economic base), each CAC should identify the important features of its neighborhood.

15. Prepare IDT "Early Warning" Report. The IDT, after an initial period of inventory work, should develop a report in which each member of the IDT would describe the critical factors which have become apparent. These would be significant features or processes, with their geographic location, which are important in the following ways:

(1) they should be used in developing goals and policies;
(2) they should be used in the analysis of interrelationships which the IDT will subsequently undertake; and
(3) they should be used by the staff in the formulation of alternative futures.

These could include wetlands, flood plains, unstable geologic areas, groundwater conditions, habitat of wildlife, commercially valuable resources, adversely impacted neighborhoods, water quality factors, recreational conditions, etc.

16. Integrate and Refine Community Goals. The task of integrating the goals developed in each CAC meeting into one comprehensive statement is a staff task. The goals will be specifically related to one of the community concerns in the adopted study design. *All* the goals developed by *all* the different CAC's should be compiled. Two or three alternative goals might be stated for one concern. Also, the component "early warning" report should be an input into the goal synthesis. The IDT has identified major critical factors; the staff should state goals relating to these. Goal statements in terms of writing, rewriting and editing are critical at this point. Clearness, simplicity and brevity are the greatest virtues. Planning or scientific jargon should be avoided.

17. Rank the Goals. The Citizens' Advisory Committee should rank each goal according to the importance which they place upon its achievement. Suggested rankings are:

First. Those goals, no matter how insignificant, which require no trade-offs in order to be achieved. Goals which are imposed by the state or Federal governments (such as air and water quality standards) also must be of the first priority no matter what the costs or trade-offs involved.

Second. Goals which are important and which require a trade-off, but where the benefits achieved far outweigh the costs incurred.

Third. Goals which require major trade-offs with each other. As an alternative, the CAC's may wish to "compromise" the achievement of major goals which are in direct conflict with each other.

Fourth. Unrealistic and "unnecessary" goals. Unrealistic goals are goals which, even though the CAC may consider them important, may be almost impossible to achieve. Unnecessary goals are corollary or alternative goals which will be achieved through satisfaction of other goals.

The process of placing priorities on the achievement of goals would be the first time the members of the CAC's will be required to work together to arrive at a concensus. The concensus on priorities would be presented by the staff to the planning commission. The judgment of the staff would have to be brought to bear on conflicts between the priorities of one neighborhood and the next.

The final judgment on these matters must remain with the elected officials of the community. The planning commission (again, the term "planning commission" refers to elected or appointed decision makers) would hold a public hearing to obtain citizen comment on the priorities placed on the goals by the staff report. After discussion and debate, the planning commission would adopt the "Statement of Goals" for the community.

18. Report on Environmental Resource Inventory and Analysis. The IDT, upon completion of its studies and analysis of interrelationships of components of the environment, should develop a report. This would contain:

(1) Base data (maps, tables and text); a description of the environment.
(2) Interrelationships of critical factors; this would use the methods described in detail in the Appendix.
(3) Land use opportunities and constraints, or "suitabilities," based on the geographic "response units" and the individual component analysis.
(4) Policy/program recommendations relative to land use; what should be done to preserve or wisely use the environment.

19. Adopt Community Goals. The staff should conduct any additional work to correlate IDT findings and CAC goal rankings into a comprehensive array of goals. The IDT report may not correlate precisely with the CAC goals, as the professional scientists will perceive the functioning of the environment in a somewhat different manner than the layman. The planning commission later would be adopting goals and restating them as policies. The implementation of these policies would relate directly to the technical information assembled by the IDT. Therefore, the staff should take care to ensure that IDT technical information, goals and possible policies are well coordinated.

The goals should be adopted, after public hearings, by the planning commission. Goals can be fairly broad and general; a "goal" may never be achieved, but once a goal is adopted, every effort should be made to reach it. A generalized relationship of concerns, goals, policies, programs, and projects is as follows:

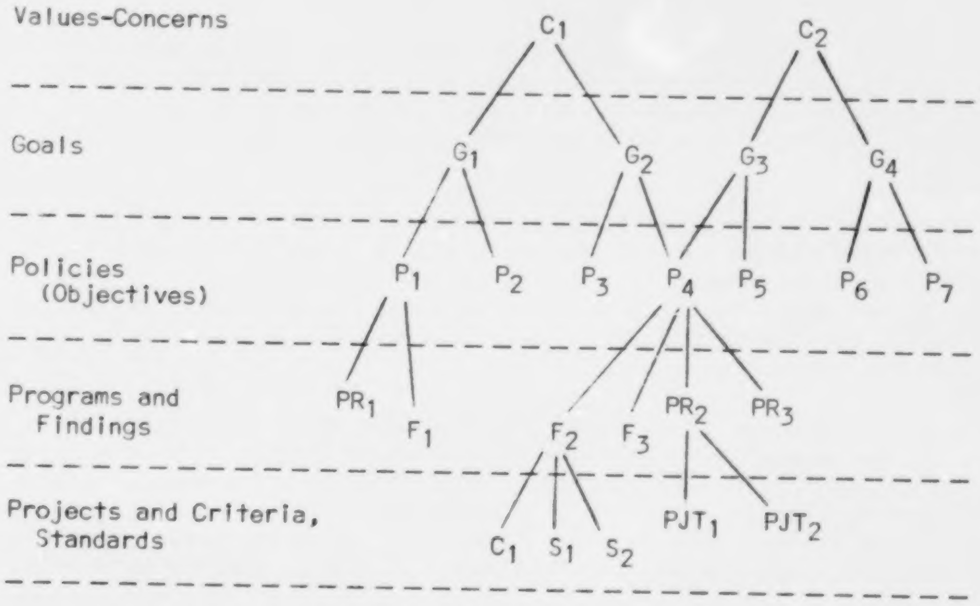

Values-Concerns
Goals
Policies (Objectives)
Programs and Findings
Projects and Criteria, Standards
C1
C2
G1
G2
G3
G4
P1
P2
P3
P4
P5
P6
P7
PR1
F1
F2
F3
PR2
PR3
C1
S1
S2
PJT1
PJT2

Figure 5. Hierarchy of Value-Goal-Policy Relationships.

20. State Policies Needed to Achieve Goals. Goals can be "restated" as policies. Working with the IDT and its material, more specific phraseology can be developed by the staff. The significance of this step is primarily legal: these policies may eventually be adopted, through due process of law, into legislation upon which hard decisions will be based. A vague policy, or one in which some matter is not included, may be subject to legal challenge. A policy which constitutes "taking" of property, or one which cannot be substantiated technically (i.e., it may be "unreasonable, whimsical, arbitrary and capricious") may be overturned. Therefore, it is essential that this step be done very carefully with sound legal advice.

As an example, a goal and policy statement might appear thus: "Goal: assure that all human activity will be compatible with the local natural environment so that the resources of land, air, water, mineral, plant and animal life will be conserved through wise use, and pollution of these resources will be eliminated."

"Policies: (1) Pollution type, source and amount will be considered as a prime determinant in making land use decisions to meet the Environmental Protection Agency's 1978 Pollution Standards and to eliminate all measurable air pollution by 1990; (2) Unique natural areas indicative of the regional environment will be preserved for the education and enjoyment of future generations and will be a prime determinant in making land use decisions; (3) The preservation, protection, proper maintenance and use of the county's wetlands, water bodies and water courses will be provided for by preventing or minimizing erosion due to flooding and storm water runoff, maintaining the natural groundwater supplies, and protecting the purity, utility, water retention capability, ecological functions, recreational usefulness and natural beauty of all wetlands, water courses, water bodies and other related natural features of the terrain, and by providing, protecting and appropriating for natural wildlife."

21. Conduct a CAC Review of Policies. With the staff and the IDT, the CAC's should review, refine and comment on the various policies.

22. Describe Alternative Futures for the Community. Decision-making, in this very complex age and society, must no longer be based on the premise that "trend is destiny." It must now take this approach: "Let's examine the various courses of action available to us; let's look at their various social benefits and costs, and then select the alternative which appears best." An approach which is becoming accepted is that of "alternative futures." In the policy planning process, this would be to develop several alternative sets of policies which could create different futures. Their implications could then be analyzed.

There is no immediate presumption that environmental policies always or even usually conflict with economic policies. An "environmental alternative future" may be the best "economic alternative future."

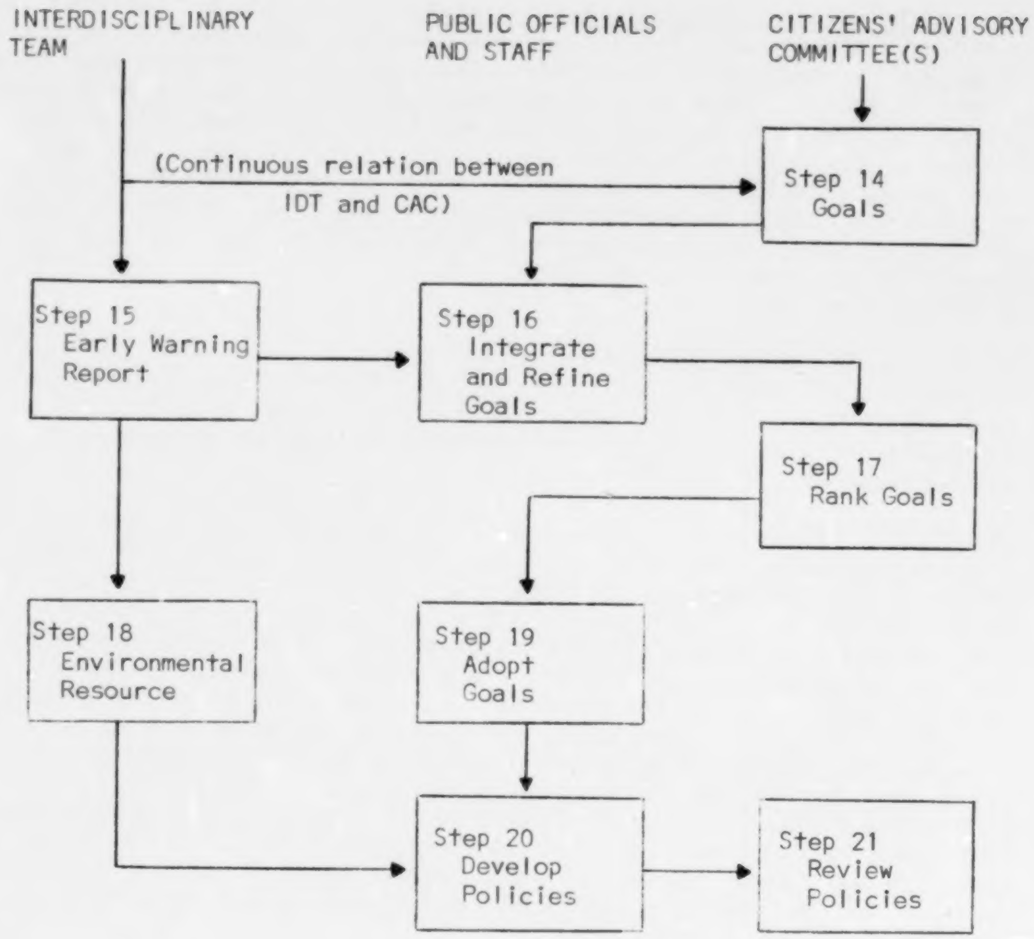

INTERDISCIPLINARY TEAM
PUBLIC OFFICIALS AND STAFF
CITIZENS' ADVISORY COMMITTEE(S)
(Continuous relation between IDT and CAC)
Step 14 Goals
Step 15 Early Warning Report
Step 16 Integrate and Refine Goals
Step 17 Rank Goals
Step 18 Environmental Resource
Step 19 Adopt Goals
Step 20 Develop Policies
Step 21 Review Policies

Figure 6. Policy Planning: Goals, Environmental Resource Inventory/ Analysis, Policies.

The first alternative set of policies developed by the planning staff should be the alternative of *no policy*. That is to say, one alternative which is always available to the community is to not adopt a policy plan and not institute controls on land development activities. This certainly should imply the continuation of current controls--zoning and subdivision regulations adopted pursuant to an existing comprehensive plan--if the community already has them. The analysis of current conditions and projected trends for each component--population, social dislocations, employment, income, air and water pollution, land development, taxes and public services, and all the rest--which is contained in the community inventory should be compiled as the *trend alternative* available to the community. The articulation of this alternative should clearly point out that some goals and policies (such as those relating to air and water pollution control), together with the controls necessary to implement them, will be established under state and Federal law if the community does not take action itself. This alternative will most certainly mean that, except for existing zoning and subdivision controls, the destiny of the community will be completely in the hands of the private sector and state and Federal agencies.

The alternative sets of policies developed by the planning staff should consist of one alternative "set" of policies for each of the major goal groupings. Each of these alternatives should include policies which are imposed on the community by Federal or state agencies. The element which makes them different from each other is that each contains a different group of policies which is designed to achieve high priority goals which have substantial conflicts with another high priority goal. The groups of policies for each alternative would be basically incompatible with each other. The conflicts may be represented by different patterns of growth, and if the alternative futures can be presented as conceptual maps showing varying densities and spatial distributions of land use, they will probably be better understood. The implementation of one of these alternatives may signal a new direction in the life of the community: redirecting growth to a "new community," a major greenbelt program, a major effort to clean up blighted areas or attract major new industrial employers--the possibilities are varied. The major difference between the alternatives which include a "special set" of policies and those which do not rests in the community-wide goal orientation, and the land use programs and controls which will be necessary to achieve the goal.

This step should be conducted by the staff, with CAC review.

23. Study Impacts of Alternatives. The "alternative futures" represent several distinct and clear-cut paths for future growth and development which will impact the community. One of these paths will be chosen by the public officials for the community to follow. For this reason, it is important to see to it that residents of the community understand the various futures open to the community.

Using the policies which have been formulated, and their own inventory and analysis, the IDT and the staff should work together to describe, in layman's terms, the types of programs which would be undertaken, the ways in which life in the community would be different, and the urban design implications of each future. This is, in effect, a "programmatic environmental impact statement." It would not present a decision and alternatives to the decision, as is the situation with Federal Environmental Impact Statements. Rather, it would present alternatives with no prejudice.

24. Review the Alternative Policy Plans. Once these descriptions, together with such graphic materials as may be helpful in communicating them, are developed, each would be formatted into a short report which is published by the planning commission along with the set of policies to which it refers. The reports would be published in a series by the local newspapers, and other means of communication would be used. The reports would be presented to CAC's and to meetings of civic and social organizations. Members of the planning commission, the staff, the CAC's, and the IDT should all be available for attendance at meetings to explain the implications of each of the alternatives. In short, the alternative sets of policies and the descriptions which accompany them should be made the subject of broad public interest and debate.

25. Adopt the Policy Plan. After the residents of the community have been given a reasonable opportunity to become familiar with the various alternative futures and their implications, the planning commission should hold both informal public meetings and formal hearings designed to attract the broadest possible citizen comment on the various alternatives. For example, at least one meeting should be held in each neighborhood in the community. The Citizens' Advisory Committee for that neighborhood could organize the meetings.

Formal adoption by the responsible public officials would bring the policy planning phase to completion. At this point, the community would have a policy plan, consisting of policies relating to specific goals and environmental factors, an indication of the implications or significance of the policies and the plan, and a data base and land use suitability analysis.

The community and officials would be ready to develop controls to be used in response to proposed land use changes and projects to carry out as community actions to achieve the goals. They would have the policies and basic scientific and technical information needed to establish precise controls. They would have, hopefully, politically acceptable policies. And, also hopefully, they would have a greater knowledge of the ecological character of their region. They have used environmental information in all decisions: adopting goals, examining alternative futures, and adopting policies.

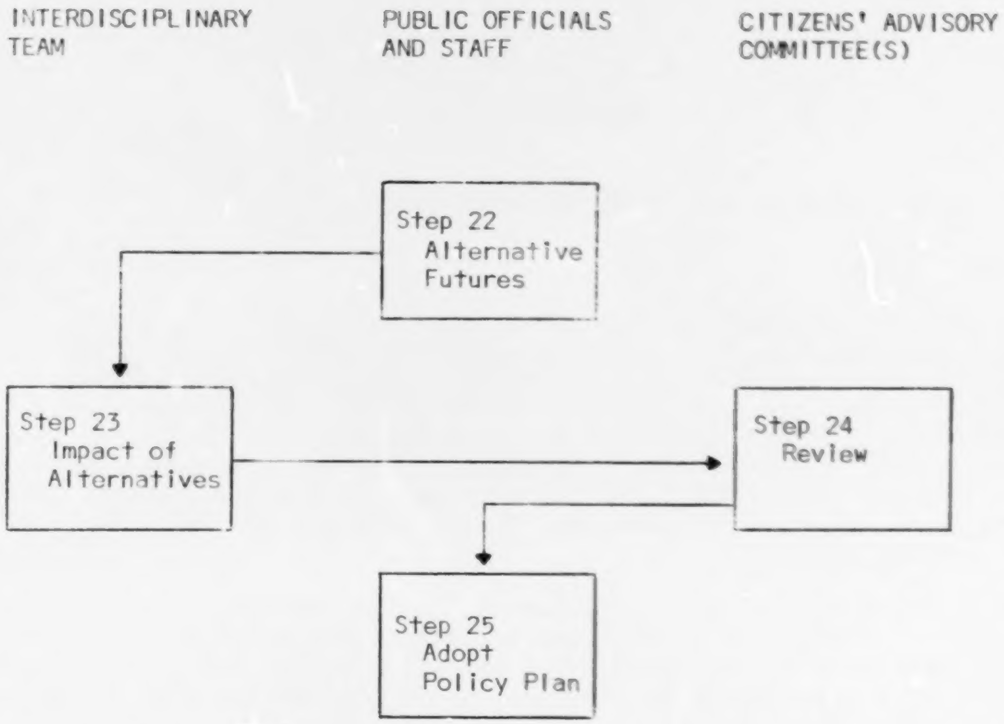

INTERDISCIPLINARY TEAM
PUBLIC OFFICIALS AND STAFF
CITIZENS' ADVISORY COMMITTEE(S)
Step 22 Alternative Futures
Step 23 Impact of Alternatives
Step 24 Review
Step 25 Adopt Policy Plan

Figure 7. Alternative Futures and Policy Plan.

SECTION V

IMPLEMENTING THE POLICY PLAN

A. LEGAL/TECHNICAL IMPLEMENTATION OF POLICY

Introduction

At this point in the Land Use Decision-Making System, the community will have developed a policy plan which states the social, economic, environmental, and government services problems which the community wishes to solve through land use decisions. It will have stated a set of goals for future land development to follow. Supporting the policy plan will be the technical information developed by the interdisciplinary team. In addition, during the process of developing alternative futures for the community, the implications of the policy plan will have been assessed.

The purpose of developing and adopting a policy plan with supporting technical information is to create a standard against which land development proposals can be measured and new public actions initiated. However, the policy plan does not provide an effective guidance system for decisions until the next step is taken: refining the policy statements to the point where engineers and designers have specific, legally enforceable standards to guide them in drafting a proposal and developing various communication tools to ensure that the policies and their technical refinements are easily usable by land developers, public officials, and concerned citizens.

The process of developing and adopting the refining and communicating documents should be relatively simple. The documents should be drafted by an attorney with the assistance of the planning commission and the staff. The assistance of a consulting civil engineer and the IDT might also be needed. The draft should be circulated to the CAC's for conformance with the adopted policy plan. After changes or corrections are made, the documents should be officially adopted by public officials.

Three documents are required to refine the policies: (1) "Standards, and Technical Review Procedures," which are used to guide the design and review of development proposals; (2) "Submission Requirements" for development proposals; and (3) "Programs and Projects." The second includes a description of the evidence which developers must submit with proposals showing the possible impact on the policy plan--the "Impact Statement."

1. Findings

In order for the planning commission to approve or disapprove a proposed land development activity, it must make a *finding* that the proposal is or is not consistent with the policy plan. For most policies, there could be a variety of different findings. For example, suppose that it is an adopted goal of the community "to provide for recreation in and on the water, and for the propagation of sport fish." Pursuant to this goal, the community has adopted a policy which states: "No land development activity shall be permitted which causes, or contributes to, pollution of surface or groundwater supplies." Pursuant to this policy, the planning commission could, after an examination of the evidence, make several findings regarding any given proposed land development activity:

(1) *The policy is irrelevant to the proposal.* In order to make this finding, the planning commission would have to conclude that the proposed land development activity will have no impact whatsoever on ground or surface water supplies.

(2) *The proposal implements the adopted policy.* If the municipal wastewater treatment facilities have unused capacity, hooking up the proposed land development activity to the municipal sewer system might implement the policy. Also, the run-off from the development would have to be controlled so that it would not pollute the water body in question, and this would complete the analysis regarding implementing.

(3) *The proposed land development activity does not meet the adopted public policy.* If the policy is stated in absolute terms, this finding could be grounds for turning down the proposal. If, however, the adopted policy plan indicates a trade-off between the particular policy and others, a *variance* from the policy might be granted. This is where the balancing function of the LUDMS comes into play. The trade-off, in the case of water quality, might be in regard to financing additional sewage treatment facilities.

A finding must be made on each policy in the policy plan for every proposed land development activity. All of the possible findings which could be made for a given policy (including the finding that the development does not implement the policy) are developed by the staff. Thus, a developer would know in advance the different alternative courses of conduct which he can undertake to implement the policy.

2. Standards and Technical Review Procedures.

Standards, criteria, and technical review procedures are scientific and technical restatements of the policy plan. According to Webster, a standard is "something set up and established by authority as a rule for the measure of quantity, weight, extent, value or quality." Synonyms: criterion, gauge, yardstick, touchstone. Some environmental regulations, e.g., Federal air quality regulations, distinguish between standards and criteria although the distinction is artificial unless defined with legal precision.

Thus a standard is a precise statement (as precise as possible) of value, a yardstick against which proposed development acitivity can be measured. For example, if an element of the policy plan is to "maintain adequate elk habitat, particularly winter range," the wildlife biologist member of the IDT will have to interpret this policy in terms of carrying capacity of the range for elk, number of acres that must be preserved from development, etc. The standard might read: "Maintain a minimum of 160 acres of winter range in the central portion (later defined) of the Wood River Valley." Standards would also be promulgated for maximum allowable emissions of certain air pollutants, maximum allowable discharges of certain water pollutants, number of acres or percent of development to be left in open space, and numerous other factors. Standards for aesthetic quality, scenic resources, quality of recreation experience, and architectural design are much more difficult, but not impossible, to establish. Groups of design experts might be established to set standards on a case-by-case basis.

3. Submission Requirements

After standards have been developed and adopted, procedures must be adopted which identify for the developer the type and quality of evidence which he must submit along with his proposal to indicate that he does (or does not) implement the policy plan. This submittal is called an "impact statement." Such evidence would frequently refer to policies relating to the natural environment: hazards, conservation areas, soil types, vegetation, slope, and significant natural features. Evidence relating to policies and concerned with governmental services could be provided by commitment letters from the municipality or special service district. Yet other types of evidence, e.g., the economic or social impact of the development, might have to be provided by expert studies and reports done at the developer's expense. Finally, evidence regarding the construction of improvements, such as roads, to be dedicated to the public, or dedication of land for school sites, park sites, bike trails, or other improvements to be constructed by government agencies to serve the development, could be provided by the representations of the developer, backed up in some cases by a surety bond.

Procedural requirements for submission of evidence to accompany a development proposal may be adopted in the form of an ordinance. The "impact statement" proposed for LUDMS would be much simpler than the environmental impact statement required by the National Environmental Policy Act. It would be short, relatively easy for land developers to prepare, would simplify scrutiny by interested public citizens, and, most important, would be designed to facilitate a decision on the proposal by local public officials.

First, impacts would be analyzed and assessed for the adopted policy plan. On the one hand, this impact statement expands the traditional subject matter of the environmental impact statement to include impacts on social and economic factors, the tax base, and the demand for public services. On the other hand, it limits the amount of information required of a developer in that, by virtue of adopted policies and technical data, the developer can refer to public scientific and technical information.

Second, because the topics covered by each developer's impact statement would be the same, the format of the impact statement could be standardized. Each policy might have a standard form developed for it.

4. Tools and Techniques.

After the policies are refined by the development and adoption of standards, submission requirements and impact statement forms, the next step in the LUDMS is to develop and formally adopt tools which make the refined policies more usable by developers, public officials, and interested citizens. These would include the following:

(1) *Environmental Component Analysis Maps.* These are maps which would have been developed by the IDT in the planning process, and for which a policy has been drafted and legally adopted. It is quite possible that some component maps will never find their way into policies and ordinances. Each would consist of a base map and a series of clear plastic overlays, one for each component for which mappable information has been developed. The base map should contain survey information, topography and significant natural and man-made features. The clear plastic overlays would be different for each component. One set of overlays could indicate the components which, in one way or another, constrain development activity: natural or man-made hazards, air pollution pockets, groundwater recharge areas unsuitable for septic systems, swelling soils, scenic vistas which should not be blocked by billboards or tall buildings, historical sites, wildlife habitat, mineral deposits, areas slated as greenbelt between neighboring communities, land that has already been developed or committed to development, land owned by government agencies, etc. Every component would have its own clear plastic overlay, with the information and data portrayed on it.*

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* For some policies, such as prohibiting development in floodplains, it is extremely expensive and time-consuming to develop information accurate enough to draw a "hard line" around an area on a map. For such policies, it might be possible to develop only generalized information. Mapping this generalized information can be done by indicating "suspected" floodplain areas--those which an expert has reasonable grounds to believe have been flooded in the past, but for which no hard floodplain line has been developed--in shading those areas on a map. In such "suspected" areas, it is incumbent upon the land developer to hire his own experts to draw the "hard line" of the floodplain through his

Each would show "prohibited" and "restricted" areas, and would comprise one of the *constraints maps*. Information related to restrictions would be contained in the findings and standards of the ordinances. Hence, it could be determined what land uses could be permitted in certain areas, and how those uses must be accomplished to avoid or minimize environmental damage.

Likewise, *opportunities maps* should be developed, with clear plastic overlays showing the areas where various public policies encourage development activity: areas already served or about to be served by water, sewer, and utility systems; new town sites; areas assembled as industrial parks or shopping centers by public agencies; urban renewal areas; areas served by mass transit or highway interchanges; opportunities for recreation development; and any area where the community has determined that development would be compatible with the policy plan.

(2) *Environmental Interrelationship Analysis Maps*. From a legal standpoint, whether the community uses the special zoning and subdivision ordinances or the permit system to regulate land development, the burden of proof is on the developer to convince public officials that his development would be consistent with the policy plan. The purpose of the interpretive maps is to cut even further the amount of time and energy which must be devoted to a development proposal. Environmental interrelationship analysis maps differ from environmental component analysis maps in that they aggregate in a visual presentation the opportunities or constraints of several components that are interrelated: they analyze interrelationships. For example, individual hazards expressed on environmental component analysis maps may be: floodplains, avalanche areas, rockslide areas, areas of potential forest fire, swamps, bogs, quicksand, etc. Aggregated and interpreted on an interrelationship analysis map, they may display a unit where an impact to one component could trigger changes to other components or areas, or where a number of ecological factors create a geographic unit of special character. For example, habitat of a regionally rare species may include springs and seeps, and an aquifer recharge area from which the springs and seeps are fed. The entire system would comprise a "unit." As another example, a marsh may be desirable to protect for a number of reasons. But its ecological integrity may involve protection of some erodible areas around it, or some springs which feed it, or a buffer area around its perimeter. The entire area could be treated as a unit because of ecological linkages.

When adopted by the planning commission, the analysis maps create rebuttable presumptions regarding the policies which they portray.

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property before he designs his development. Whether the developer's proposal is accepted or not, the information he has developed on the floodplain line will be useful to neighboring developers and the public officials.

These presumptions can be rebutted by additional evidence from the land developer or from interested citizens, but the burden of proof clearly shifts to the person rebutting the presumption.

The maps would make the work of interested citizens easier, and they would be helpful to land developers. Before developers buy an option on property or draw up a development proposal, they could find out the "opportunities" and "constraints."

(3) *Zoning Map*. The analysis maps should not be considered zoning maps. A zoning map, when adopted, gives some landowners absolute rights to certain kinds of development, while absolutely prohibiting other types of development. The analysis maps are only a graphic portrayal of the information developed pursuant to the policy plan. The analysis maps create presumptions in favor of or against a land developer which will aid or hinder him in obtaining a permit; the adopted maps neither grant nor deny any "rights" to either a type of use or a particular density.

Of course, a zoning map will not be prepared by every community adopting all or part of the LUDMS. To reiterate a basic principle of the LUDMS: the system offers two basic alternatives for land use control: (1) zoning, subdivision regulations, and other traditional devices, and (2) a permit system. However, the great distinction between the LUDMS and traditional approaches is that both of the alternative systems are based on the policy plan, which includes both an expression of the public interest and scientific/technical information. A zoning map would be relevant only if the community decided to maintain the traditional devices. Obviously, to be consistent in implementing the policy plan, the zoning map would have to be related very specifically to the environmental component and interrelationship analysis maps. For example, it would be patently ridiculous and irresponsible for a zoning map to designate a "natural hazard area" as permissible for condominiums. A LUDMS zoning map would be an enormous improvement over traditional zoning since the latter is almost always based on future land use projections which are only extentions of existing land use--and thus merely a repetition of past mistakes.

(4) *Monitoring*. A critically important and often ignored technical tool necessary to implement the policy plan is the development and adoption of a process for the planning staff to monitor the community's progress in implementing its adopted policies. The purpose of monitoring development activity and other land changes, such as the abandonment of buildings, is to enable the planning commission and interested citizens to propose changes in public policy, standards, or legal devices as they become necessary or desirable.

Very little guidance can be offered on the subject of developing the monitoring process because the processes will vary widely. For some policies, periodic visual surveys and interviews with the members of the CAC's will suffice. For other policies, such as those relating to air, water, and noise pollution, monitoring stations with complex electronic sensing equipment may be necessary. The staff, aided by the IDT and the CAC's, should develop the monitoring process in the form of an ordinance to be adopted by the planning commission. An essential element of the ordinance should be a periodic report on the progress, or lack thereof, on the implementation of each policy. Also included should be an analysis of how the policies impact each other--for instance, the degree to which air and water pollution standards and criteria may be preventing the expansion of employment opportunities or creating solid waste problems.

A truly responsible monitoring system should monitor ecological changes. Although it is not proposed in the LUDMS, it would be interesting if all developments were subjected to a "monitoring tax" which would pay for future IDT studies so that actual effects of land use changes could be identified and corrective action sought if impacts exceeded those predicted. A filing fee for developer applicants ideally would cover the costs of both the "impact statement" and monitoring.

B. PROGRAM IMPLEMENTATION OF POLICY

Introduction

It should have been clear during the development of the policy plan that there are social, economic, and environmental limits to the goals and policies which a community can reasonably hope to implement. Some alternative futures are not always available. Manhattan, New York, is just not going to become the pastoral home of gentlemen farmers, and Manhattan, Kansas, will probably not be a deep water port.

Whether the community has chosen to adapt its zoning and subdivision ordinance or to try the new permit system, it is clear that these alone will not ensure the implementation of a policy plan. There is much built-in resistance to *any* kind of land use control. In most communities where economic growth and development (or the lack thereof) has been the chief concern, the thought of any kind of control on land development has usually been considered to be counterproductive. In policy planning, "control" or "regulation" can and should address such subjects as economic progress and vitality, employment opportunities, and especially the impact of the development on the demand for government services and tax base.

However, there are many policies which will not be implemented with the police power. If a concern is about non-driver mobility, and a goal is to provide transit and bikeways, a policy may be developed to "create a transit authority and funding to provide adequate transit service and bikeways." Implementation of this policy would require additional planning, identification of Federal aid, legal creation of a new agency with new powers, enactment of local funding, etc.

This chapter discusses various incentives which a community can use to encourage the kind of development which its policy plan calls for, as well as the disincentives which will discourage applications for land development activities which obviously frustrate public policy.

The first, and most important, is "dealing in real estate" with all its ramifications: urban renewal and urban homesteading, public housing, industrial parks, scenic and conservation easements, greenbelts and recreation areas, and even land banks for future development and new town sites. The entire capital expenditure budgets of state and local government, especially the extension of utilities, should be controlled by the policy plan, providing incentives or disincentives to land owners. Public ownership of suitable sites for development and control of utilities can be used to subsidize private development. These same devices can be used to place covenants on the land before it is sold to a developer.

In Vermont, the state legislature has passed a tax law which discourages speculation by seeing to it that a large portion of speculative profits is returned to the state. Many states are now taxing farmland at its agricultural productivity rate rather than its speculative rate for development.

It is a major concern of the researchers that all such programs be used to implement the conclusions and findings of the interdisciplinary ecological analysis. A greenbelt program which preserves open space is worse than no program if it preserves the wrong open space and other land which should be open space is permitted to be developed.

1. Dealing in Real Estate.

Among the various programs which a community can undertake to implement its policy plan is the buying of real estate. In every community there will be situations where the public interest in a given piece of property is so strong that the property must be purchased outright by the public in order to protect it. Even with the most stringent regulations, the choice of not developing or developing is still the choice of the property owner, but there are many occasions when there is a legitimate public interest in having the government make those decisions. In such instances--where policy calls for redevelopment of blighted areas, new town development, greenbelts, protection of valuable wetlands, or public recreation sites--the only feasible way to implement the policy may be to assemble and buy the parcels of land. In addition, there will be occasions when the government is legally obligated to acquire real property in order to protect the owner's rights. Some property rights may be transferred or sold away. Examples are the right to take over the property upon default of a debt and the right of a lessee to "use and occupy" the property. However, the rights associated with "regulating" the use to which the land is put are always retained by the government.

It is a well-established principle of constitutional law that the government cannot take property "without just compensation," and since the government already has the right to regulate, the legal question arises: at what point does the regulation take away so many property owner rights that it amounts to a "taking" of the property itself?

Court decisions on the question vary from state to state. Generally, the standard is whether, after the regulatory controls have been imposed, there is any "reasonable" use of the property left to the owner. In recent years, however, the trend has been toward permitting more and more government regulation without the requirement of compensation to the owner. An excellent book has recently been written on this subject: *The Taking Issue: An Analysis of the Constitutional Limits of Land Use Control.**

An outstanding example of the use of a land acquisition program to implement public policy is found in Stockholm, Sweden. There, for almost three hundred years, the city has owned all of the land on its outskirts. When new development was desirable, plans were drawn up by the city to ensure compatibility with existing development, and then implemented by private contractors. After World War II, the land surrounding the city was designated a permanent greenbelt of farms and forests, and new satellite communities outside the greenbelt were developed. Unlike American cities, Stockholm's growth over the centuries has enabled it to become more desirable and more livable.

The process which Stockholm uses to grow and develop is similar to the process Americans use for building highways, but highways are only one of myriad factors which require closely coordinated, integrated planning if we are ever to arrest the downward spiral of the quality of life in our urban areas. Despite all the regulatory measures that the lawyers and planners can devise, it is easier to implement a sophisticated, integrated and environmentally responsible plan for a complex urban area when the public has the property rights to the land.

Theoretically, if a community owned all of the developable land within it and on its outskirts, it could implement almost any policies it wanted to within the realm of reason and the parameters of the Federal and state constitutions. But, of course, American communities do not have the political or financial resources to implement such a program. The ideas which follow are examples of the types of programs which, traditionally, the private sector has been unwilling or unable to implement. They are programs which can derive from the policies of the plan.

a. Programs Relating to Outdoor Recreation -

Vacant land in inner city neighborhoods can be acquired, cleaned up

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* Bossleman, F., D. Callies, and J. Banta. *The Taking Issue.* Washington, D. C., U.S. Government Printing Office, December 1971.

(usually with volunteer help from service clubs), and used for children's playgrounds--which is probably what it is used for anyway. In blighted urban neighborhoods, homes and buildings which are unfit for habitation are often abandoned or put up for tax sale. These buildings can be acquired and demolished at relatively little cost, providing "pocket parks" in neighborhoods with almost no open space.

The problem is more difficult on the fringes of the urban area, where postwar housing developments stretch for miles. The homes are not dilapidated and thus cannot logically be torn down. In such a case, the most feasible solution may be to purchase large amounts of park land on the fringes of the urban area. In private redevelopment, though, requiring park dedication or "bargaining" in a planned unit development approach can create open space.

b. Greenbelts and Open Space -

If two communities appear to be growing together, a large park between them, purchased by both, will keep them separated and maintain the separate identity of each. Thus, two policies have been served by the purchase: providing recreational open space near the cities, and also preventing the type of urban sprawl that would allow them to grow together and lose their separate identities.

This latter policy--shaping, directing, or containing growth on the periphery of the community--generally calls for publicly-owned greenbelts. These open areas may be devoted to recreational uses, or they may continue to be used for agriculture or forestry or even very low density cluster development.

c. Core Area Redevelopment -

Various Federal programs are available to ease the land use problems of urban core areas: urban renewal, neighborhood redevelopment, "FACE," and other Federal public housing and publicly-subsidized private housing programs. Several states have established programs to work on the same problems--notable among these is New York State's urban development corporation. The object is the same in all cases: to put monies in the hands of the community to rejuvenate central city downtown areas and blighted neighborhoods.

Many programs--notably urban renewal and federally subsidized housing programs--require the establishment of a separate local governmental body to be responsible for administering the program. It is important that these bodies be so structured that their decisions implement the policy plan. The programs of these semi-autonomous official bodies can be coordinated with the on-going planning program in the community. For instance, if a policy plan calls for the urban renewal area to be developed for commercial shopping, office space, and high-rise residential development, a complementary policy could be developed which states that no major new commercial shopping center, office buildings, and high-rise apartments will be permitted outside the urban renewal areas until the program is complete.

d. Programs to Encourage Good Urban Design -

Zoning codes, building codes and design requirements for homes for which the FHA will guarantee loans are three excellent examples of government stultification of creative design techniques. These regulations, which govern the size and design of lots, and the design and construction of homes on the lots, have changed little since the postwar housing boom. They are directly responsible for the dull, homogeneous housing tracts which spread across the American landscape. These housing tracts, in turn, are in large part responsible for the newly fashionable "no-growth" or "slow-growth" movement in many American suburbs--a movement which, if successful in its goal of stopping or slowing new housing construction, could have far-reaching and disastrous implications for the future of our urban areas.

It has often been observed that taste and morals cannot be legislated. Yet there is no question that the ugliness of most American towns and cities can be attributed to tastelessness. Aside from architectural control, which again gets into the area of regulations, good design should be rewarded by tax incentives, design competition, and abandonment of the universal practice (often required by legislation) of taking the low bid. The low bid often results in unimaginative solutions to problems.

e. New Towns and Growth Pressure Transfer -

This type of program is the most sophisticated a community can undertake. It speaks to the demand that "something has to be done." It is time to undertake seriously the development of new towns and even new cities--an area in which, heretofore, America has been incapable of emulating the successful European experience.

The key ingredients for a new town are:

(1) Growth pressure.
(2) Growth in the existing community perceived as lowering the quality of life.
(3) Existence of a regional land use decision-making body.
(4) Broad public support for the new towns program, and strong political leadership.
(5) Selection and design of a site superior to that of the preexisting community.

Development of the new town must be carefully staged. Commercial, business, recreational opportunities, job opportunities, and various cultural amenities must be provided *before* people can be expected to move to the new town. This requires not only careful anticipation of trends in the housing market, but also careful financial footwork. Because of these severe risks, and also because the lead time in land development activity requires that capital be tied up in these risks for a period of many years, developers tend to shy away from very large-scale developments such as new towns. Title VII of the 1965 housing act authorizes the Department of Housing and Urban Development to extend to new town developers loan guarantees which make it easier for them to obtain such long-term, risky financing. Unfortunately, hardly any funds have been made available for this program, and until it is in full operation, it might be necessary for the state or the regional planning commission to undertake a similar program.

2. Institutional Arrangements for Public Land Development

a. Urban Renewal -

In order to set the stage for the proposed development of new towns, industrial parks, or the establishment of greenbelts, it will be necessary to create an agency within each region to handle the process. This agency should be modeled somewhat along the lines of the urban renewal authorities. It might be useful to review the powers and duties assigned to the urban renewal authorities before outlining how this model should be used to create a public land development agency.

In order to put the urban renewal program to work, each state is required to pass enabling legislation granting urban renewal authorities in specific cities the opportunity to utilize the financial assistance, in the form of grants and loans, which is provided by Congress. Each community, in turn, must then pass the necessary resolutions and ordinances to permit such a program to be undertaken. Although the mayor or the city council is responsible for appointing the director of the local authority and must approve the appointment of the citizen commissioners who are selected to serve under the director, the urban renewal authority is essentially autonomous and not answerable to the executive or legislative body.

After the urban renewal authority has been established by the local community, it is required to do a "workable program for community improvement," which is basically a call for comprehensive planning. The workable program includes: codes and code enforcement, planning and program budget, housing and relocation plans, and citizen involvement. Only areas of the city that are designated "blighted" by the comprehensive plan are eligible for urban renewal redevelopment. The authority has the power to condemn land in these areas only. The power of eminent domain is granted under state enabling legislation to comply with the "public purpose," i.e., to remove existing blight and prevent further decay of the inner city.

This is the way the urban renewal program is designed to work. In clearing the slums of American cities, however, it was never easy to know what to do about the people who were living in these deteriorating neighborhoods. Citizen involvement was one of the requirements of the workable program, but often that meant only the input from downtown businessmen. Relocation was an important aspect of the planning, but when it came time to uproot families and individuals who were paying very low rents in the inner city, it was extremely difficult to find them a similar situation elsewhere. Also, many of these people felt a sense of community in their old neighborhoods and experienced great psychological hardship in the relocation process. For these reasons, urban renewal in the 1960's came to be referred to as "Negro removal," and many of the benefits of the revitalization opportunity went unrealized because of the bitter disputes over the rights of people whose lives were disrupted by the process. In 1972, Congress added a stipulation to urban renewal money that relocation had to be worked out satisfactorily before the redevelopment project was funded.

The essential goals of the urban renewal approach seem quite applicable to the implementation of the regional policy plan. To quote from the Act which set up the urban renewal program:

> In the administration of this title, the administrator shall encourage the operations of such local public agencies as are established on a state, regional (within a state) or unified metro basis as permits such agencies to contribute effectively toward the solution of *community development* or redevelopment problems on a state, regional or unified metro basis.[*]

b. New York State Urban Development Corporation -

In 1968, the New York State legislature created an urban development corporation and gave it many of the same powers which some admire in the urban renewal framework. It was created as a "complex interlocking corporate structure which included a governmental development corporation, a quasi-public development and research corporation, and a quasi-public guarantee fund."[+] The UDC has the powers of eminent domain and the ability to become involved in new town development. It originally had the power to supercede local zoning regulations, but the state legislature recently rescinded this privilege.[‡]

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[*] Office of the Administrator, Housing and Home Finance Agency, "Urban Renewal provisions of the Housing Act of 1949, as amended through August '55, and excerpts from other Federal Laws authorizing Federal assistance to slum clearance and urban redevelopment and urban renewal." (Washington, D. C., U.S. Government Printing Office.)

[+] Robert S. Amdursky, "A Public-Private Partnership for Urban Progress," The Journal of Urban Law, XLVI, 207.

[‡] The ability to override existing local zoning was one of the experimental features of the UDC, and the fact that it has not worked seems to indicate the difficulty that such an agency will have in providing political insulation and coping with the resistance by cities to threats to their cherished powers of home rule, and by suburbs to their assumed rights to exclude low-income and racial groups. (James Clapp, *New Towns and Urban Policy*, 1971)

The one power that the UDC does not possess, a function which is one of the strengths of the urban renewal authorities, is the power to "write down" (or decrease) the price of property taken possession of in order that it can be developed at a lower intensity. The UDC has been involved in three new town developments in the state: northeast of Buffalo, northwest of Syracuse in connection with the State University of New York, and Welfare Island. Several other proposals are on the drawing board.

c. Regional Public Land Development Agency

Using the examples of urban renewal authority in the cities and the state model of the NYUDC, it seems logical to recommend the creation of a regional public land development agency to help implement the policy plan for each region. This agency would have to be created by the respective state legislatures, but it would have jurisdiction only within its regional boundaries. This agency would provide the means for the region to directly initiate new town development, maintain greenbelt/open space, assemble industrial parks--anything the community would like to do consistent with the policy plan for the region. A comprehensive scheme for development of the entire regional area would be possible under such a program. Since the agency would be authorized to assemble by use of eminent domain large tracts of land in outlying areas for resale to developers, it would provide the public support to private enterprise necessary to reduce risk and ensure the incorporation of certain facilities. By state statute, it should have powers of eminent domain and the ability to float bonds for its own activities. The problem encountered in New York regarding local zoning would be eliminated because the corporation would be set up to apply the policy plan for a region under the recommended permit system, and therefore local zoning regulations would not be involved. In discussing this type of public land development agency, James Clapp points out that:

> This type of program would place the vital phases of initiation, planning and disposition under the auspices of a public agency, which would mark a significant departure from the traditional measures for the control of suburban development, which separates regulation from execution.[*]

Planner John Reps, in a widely quoted article, concurs:

> . . .effective implementation of urban plans in the United States requires large-scale public land acquisition. I suggest that virtually all land to be urbanized should come into public ownership and then be made available for development as needed, where required, and under conditions that will assure building only in conformity with public development plans.[+]

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[*] James Clapp, *New Towns and Urban Policy*, p. 177.

[+] John Reps, "The Future of American Planning: Requiem or Renascence?" *Planning 1967* (Chicago: American Society of Planning Officials, 1967), p. 59.

The regional public land agency should have the powers to assemble land for new town development. Except for Columbia, Maryland, all new towns currently under construction in this country are being developed on sites which have been acquired from what were previously large open land holdings, for example, the large ranches like Irvine that are being developed as new communities in California.

The supply of development sites in metropolitan areas is decreasing. One of the major reasons that the regional approach is recommended for future planning, and for undertaking the operation of a land development program, is the danger of balkanization caused by the "leap frogging" process in the establishment of suburban developments.

3. Legal Devices to Acquire Various Interests in Land

Many public policies which cannot be adequately implemented by regulation nevertheless do not require government acquisition of *all* of the property rights. It is possible, as well as fiscally prudent, for the government to acquire only those rights which it needs to implement its policy. Some of the most important of these rights are as follows:

a. Easements -

Sometimes a community can acquire all or most of the benefits it seeks from a parcel of property without any of the accompanying financial burdens. Rather than purchasing the entire tract in fee, or condemning it, at fair market value, the community can acquire by gift, purchase or devise an *easement*--which is less than the fee title. When it acquires a *negative easement*, it can prohibit specified types of development activities on the property: billboards, high-rises, high density housing, etc. Or it can acquire a positive easement on the land, e.g., a hiking trail, nature study center, picnic area, or other easements allowing some form of public access. Easements have enormous flexibility since each one is negotiated as a separate contract with the property owner. They are more politically acceptable than eminent domain and generally cheaper than buying the fee title, although in some circumstances an easement may cost as much or more than the fee. "Conservation easements," "scenic easements" and "open space easements" have been used throughout the nation but many communities are totally unaware of this device.

b. Development Rights -

It is well established in the law that the "right" of a private property owner to develop his land is subject to government regulation. Nevertheless, there may be instances where the right to develop should be acquired by public officials to implement the policy plan.

Perhaps two communities have decided to establish a greenbelt of agricultural land between them. They want to assure that succeeding generations of public officials will not be able to develop the greenbelt.

There is no reason for buying the land outright. It can remain in agricultural production. So the communities simply acquire the right of any present or subsequent owner of the property to even apply for a development permit. If the value of the land in question for agricultural purposes is $500 an acre, and the value of the land for a housing development is $3,000 an acre, the value of the "right to develop" the property is the difference between the two, or $2,500 an acre.

Thus the interests of both landowner and community are served: the community has its greenbelt for less than the market value of the land, and the family farmers remain on their property and continue their life just as it was before. If the community had attempted to condemn or buy the land outright, it would have run into stiff resistance from the farmers.

To implement some policies, not all development rights need to be acquired. For example, suppose that a public policy called for particularly scenic vistas from the public highways to be conserved but that a utility company desires to run transmission lines parallel to the highway, marring the scenic vista. In order to protect it, the public officials might merely purchase the "right" of the utility company to put in the power lines and poles--and the value of that right would be the additional cost of undergrounding the lines. The public officials would have to pay the utility company to put the line underground. The type of development right which the public officials would buy is also called a *scenic easement*, and the access which has been purchased is really nothing more than visual access across the utility company's right-of-way. (See previous discussion on easements.)

c. Covenants -

A covenant is an agreement between the buyer and the seller of property which obligates the buyer to do, or refrain from doing, certain things with the land. Some covenants "run with the land"; that is, they bind subsequent buyers in succeeding generations. There are two ways in which covenants can be used to enforce public policy:

(1) *When the community sells the land.* When a piece of property which is particularly important in the implementation of the policy plan goes up for sale, the community buys it. The public officials then draft a covenant setting forth those things which subsequent landowners must do, or must refrain from doing, and legally attach it to the deed to the property. (Such a covenant might read: "The property shall always remain a horse pasture," or "no buildings can be constructed over 50 feet high," or "any future housing development on the property will be clustered on land which is unusable for agricultural purposes.") Covenants often speak only to future contingencies and thus often do not cost much money. For this reason, the land with the covenant attached to it can often bring almost the same price which the community paid for it in the first place.

(2) *Covenants where the community is a third-party beneficiary.* A covenant to implement public policy can be attached to land without the necessity of public officials becoming real estate brokers. This can be done by simply paying the present landowner to attach the desired covenant to his deed. When this is done, the covenant would bind the present landowner, as well as any future purchasers of the land.

The compensation paid for the covenant should not be in the form of a permit for a land development activity, or a certain zoning designation or density. This is called "contract zoning" and is viewed as an illegal form of spot zoning in almost all states. If the public officials feel that assurances and guarantees from the developer are necessary for a permit to be granted, they should be in the form of conditions on the permit rather than covenants on the deed.

4. Other Methods of Acquisition

So far, the discussion of "dealing in real estate" has indicated that the only method available is to buy the land, or various interests in it. Beside discussing the various aspects of this method, several other ways for the community to deal in real estate are set forth in this section.

a. Buying and Selling Land: Variations on the Theme -

This section discusses two separate issues: means for the community to obtain the money it needs to deal in real estate, and the use of the power of eminent domain as a tool in implementing the policy plan.

(1) *The community can "save up" the money it needs to deal in real estate.* In recent years, many communities have undertaken open space or greenbelt programs funded by a specially earmarked increase in the sales tax (a special mill levy would accomplish the same purpose). Usually an additional ½% or 1% is added to the sales tax, which is collected in a special fund. As money accumulates in the fund, it is spent to acquire greenbelts or open space pursuant to a specially developed plan which shows not only those areas which should be acquired, but also the priority of each parcel for acquisition.* There is no reason (aside from possible

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* The "regionality" of the land use decision-making body which is responsible for developing, adopting and implementing a greenbelt or open space program is especially significant. For example, suppose there is large urban area composed of a central city completely surrounded by a multiplicity of suburbs. The purpose of a greenbelt program, presumably, is to give form and definition to the developed urban area, and to contain urban sprawl. If the central city developed its own greenbelt program, its acquisitions would hop-scotch over the suburbs and contain their annexation programs against their will. The same kind

limitations in some states' local government taxation enabling legislation) for a community to limit its "dealing in real estate" program to greenbelt and open space policies. For instance, it might be desirable or necessary for a community to buy up land in order to create an industrial park or regional shopping center, to redevelop blighted areas (urban renewal) or build low-cost housing, to acquire parks and outdoor recreation areas, scenic or conservation easements, historical sites and monuments, new town sites or for any other public purpose set forth in the policy plan.

(2) *The community can borrow the money.* There are several advantages to this. First, it permits the direct and coordinated implementation of the program in a very short period of time; and second, the usual reason for entering into a "dealing in real estate" program is that the the community feels that the land in question is subject to development pressure which would not implement the policy plan. Moreover, the community probably feels that mere regulation will not be sufficient. Undeveloped land which is subject to such intense development pressure usually inflates in value at a much faster rate than the rate of interest at which a public body can borrow money. Thus, the community will save money in the long run if it borrows money and pays the interest and buys the land now, rather than waiting for the sales or property taxes to dribble in to the special fund until there is enough money to pay cash for the development.

(3) *Recycling funds.* To implement some public policies, the community will not only be buying land, but also selling it. The money from resale should be "recycled" back into the fund to enable further implementation of the program. In this way, the amount aggregated in the special fund (or borrowed) need only be a fraction of the amount of money necessary to accomplish the entire program.

Another way to recycle the funds available to the program is to lease the land back to the private sector for an appropriate use.

"Dealing in real estate"--when combined with an recycling program--could be an extremely inexpensive and effective means of implementing public policy.

b. The Power of Eminent Domain

Eminent domain is a powerful tool for implementing public programs, and, if the the policy plan is based on good information, the power of eminent

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of conflicts would occur if each suburb developed its own greenbelt plan: one suburb's greenbelt is its neighbor's future expansion area. Greenbelts, which would benefit the entire metropolitan area, would be implemented from the tax base of only those jurisdictions which chose to attempt the program. Thus, an unfair burden would be placed on those jurisdictions which were attempting to act responsibly.

domain can be used to strengthen the implementation of any public policy.

Often, a "dealing in real estate" program is undertaken to assemble or aggregate relatively small land holdings into a parcel large enough to be able to implement the public policy: a greenbelt, urban park, new town or industrial park site, or downtown redevelopment (urban renewal) program. Because these programs have as their goal the aggregation of land, they are ineffective if the agency which is to carry them out does not have the power to condemn the land of reluctant property owners. Put another way, every program which involves the spending of taxpayer dollars must be given all of the power it needs to ensure its success.

This does not mean that every policy implemented by a "developing in real estate" program requires use of the condemnation power. There is usually a great deal of sympathy in the community for a person whose property is condemned for some public purpose, which can result in a public backlash against either the officials who ordered the condemnation proceedings or even the public project itself. For this reason, although the condemnation power should be an integral part of any "developing in real estate" program, the actual exercise of it should be restrained by a "political" balancing between the importance of the public policy to be implemented (and the importance of the particular parcel to that policy) against the normal community revulsion against condemnation proceedings.

c. Dedications and Charitable Donations -

These two devices, which can be used by local jurisdictions in a majority of states, have been neglected until very recently.

In most states, local governments are enabled to require that a certain percentage of the land in any new subdivision be dedicated to the local government for use as sites for parks and schools.* Although such site dedications may appear to be a bribe in return for approval of the subdivision plat, when they are coordinated with a school construction plan and with an outdoor recreation plan which sets forth hiking and bicycle trails or public access to the shores of rivers and lakes, the relationship of the dedications to public necessity and welfare can readily be seen.

Almost all local governments are permitted to receive charitable donations of land, or interests in land, from public-spirited citizens. When a landowner donates property, or sells it for less than market value to the government for a public purpose, he is allowed to deduct the amount of his donation--the difference between the price he received and the market price for tax purposes.* Possibly the main reason charitable donations of this type are not more common is that it does not occur to public officials to ask.

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* In Colorado, counties are required to demand such dedications from subdividers, although there (as elsewhere) the requirement can be fulfilled by the subdivider by dedicating the sites to a homeowners' association which maintains them as park space for the private use of the residents of the subdivision.

d. Acquisition by Tax Abandonment -

A story is repeated over and over again in the blighted neighborhoods of our inner cities. The tenants of a house or building which is structurally sound but badly in need of repairs either go on a rent strike or call the building inspector who threatens to suspend the certificate of occupancy. The building is old and the repairs are expensive. The tenants are paying a low rent which is insufficient to cover the cost of the repairs, and the landowner simply abandons the buiding. Eventually the building is condemned by the city for back taxes, sold at auction, and the story is repeated.

Some cities, notably Baltimore, have broken this cycle with a program intended to rehabilitate the building and turn it over to the poor tenants who live there. The program is called *urban homesteading*. Instead of selling the building at a tax sale, the city turns it over (usually for a dollar) to a non-profit corporation comprised of the tenants. Rent payments go into a special fund which pays for the improvements needed to bring the building into compliance with the building code and to make it a habitable, cheerful place. When the renovations are completed, the building is turned into either a cooperative or a condominium owned by the tenants.

In this program, the city takes advantage of the acquisition which has been imposed upon it by the defaulting landlord to provide low-cost, owner-occupied housing for the city's poorest residents, and incidentally to give them the pride of ownership associated with the major renovation effort. The cost to the city of such a program is the defaulted taxes--often no more than a few hundred dollars. The benefits to inner city dwellers have not yet been fully assessed in any of the operating programs, but there is every reason to expect that they will be substantial.

e. Private Sector Transactions Which Implement the Policy Plan -

There is a wide variety of land transactions between private individuals which, with some attention from public officials, can be used to implement the policy plan:

(1) *Transfer of development rights.* This stems from the inherent unfairness of a zoning ordinance which permits one landowner to develop to a high intensity use while his neighbor must keep his land in agriculture. The idea is to spread windfall profits derived

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* Recently a rancher in the Kawinechee Valley of Colorado who was nearing retirement sold his ranch to the National Park Service for $300,000 less than the price offered him by a land developer.

from the zoning designation and the growth pressure of the community *equally* among all landowners, no matter what their zoning designation.

A "build-out" for the jurisdiction is determined by public policy--the total number of dwelling units which will be permitted in the future. This number is divided into the total privately owned undeveloped acreage in the jurisdiction, to determine the ultimate overall density per acre in the jurisdiction. This figure is called a "development right" and is apportioned to all owners of undeveloped land in the county. Thus if the ultimate desired buildout for the county as a whole is two thousand more dwelling units, and there are 1,000 acres of undeveloped land remaining in the county, landowners would get two "development rights" for every acre of undeveloped land which they own, regardless of the suitability of their land for development.

Next, the areas which are suitable for development, according to the policy plan, are identified. Many acres of the county will be found unsuitable for one reason or another: hazards, conservation areas, scenic vistas, prime agricultural land, etc.

The owners of the "high density" suitable land have just as many development rights as the owners of marshes, cliffs, and mountain tops. But in order for them to develop up to the density shown on the zoning map, they must purchase development rights from the owners of land which cannot be developed. When the owner of a "high density" area has acquired enough development rights from the owners of unsuitable areas to develop at his high density, he cashes them in with the public officials. The result then is two-fold: a high density development in a suitable area, coupled with the permanent relinquishment of any possibility of development in an unsuitable area. When the buildout is finally achieved, the jurisdiction will be composed of high density development on suitable land, with the rest in permanent open space. The owners of the unsuitable land do not resist the policy plan because they have benefited from growth and speculation the same as the owners of the suitable areas. And although the transfer of development rights may have involved millions of dollars, it has not cost the local government anything to implement its policy.

Although the transfer of development rights theory has received a great deal of attention, it has not been applied at a significant scale. Detailed discussion of all the potential problems and advantages is beyond the scope of this chapter. It is generally felt that more research is needed before this concept is readily usable.

(2) *Covenants between private property owners which implement the policy plan.* Usually, these covenants are attached to property by a subdivider and bind the subsequent purchasers of the lots. Such covenants often read like a "private" zoning ordinance or building code:

they prohibit resubdivision; set forth minimum side, front and backyard setbacks; prohibit various (nonresidential) uses; and set forth the style, size, exterior paint colors, and even minimum cost of homes to be built there. After the subdivider has sold all of the lots, the covenants are enforced by the subsequent lot owners; that is, they are not only bound by the covenants but have the right to enforce them against their neighbors.

In Houston, Texas, mutual covenants are in such widespread use that the city has not even adopted a zoning code. And most observers agree that land use problems in Houston are about the same as those in other cities of comparable size and vintage.

5. The Capital Expenditures Program

A major governmental determinant of future land use and development is the capital expenditures program of government. Unfortunately, there is never one capital expenditures program; adjoining and overlapping jurisdictions, each with its own policies, plans, budgets, priorities, and construction programs, often work at cross purposes. A state agency is building an interchange where the local community does not want any growth pressure; special sewer districts are extending lines in one direction while the city wants to annex in another; counties approve subdivisions across the street from the city limits and hand the traffic to someone else; the list could go on and on.

The solution to this problem is to *create jurisdictions to contain all the impacts of land use changes.* It is recommended that communities establish "regional" planning commissions to make land use decisions, but it is beyond the subject of this report to design a regional or metropolitan-wide "government" to handle all public services and capital expenditures programs. The essential goal is this: to ensure that all capital expenditures of the taxpayer's dollar--state government, local government, special service districts, school districts (and to the extent possible, Federal programs)--are coordinated with each other and implement the community's policy plan. In fact, the community should demand no less in the use of its tax dollars.

There are several different ways which are presently available to the community to achieve this goal:

a. Metropolitan Government -

It is beyond the scope of this study to recommend or design various forms of metropolitan-wide government bodies, or special service agencies. If a community is already served by such a government entity, presumably both the power to **review land use decisions and the capital** expenditures plan and budget are centralized. The adopted policy plan should govern both types of decisions, thus ensuring complete coordination between land development by the private sector and the capital expenditures program for the entire community.

b. Coordination of State and Local Capital Expenditures Program with Each Other, and with the Policy Plan, by a Regional Planning Commission or Council of Governments -

In all areas which are not served by metropolitan-wide governments, the regional "community" contains the jurisdictions of several local government bodies, school districts, and special service districts, each with its own capital expenditures program. In such cases, it is necessary to establish a regional planning commission to coordinate all of the different capital expenditures programs with the policy plan. Several different types of regional planning commissions can be envisioned. Ranging from the most effective (in terms of implementing the policy plan) to the least effective, they are:

(1) *The regional planning commission with regulatory control over both land use decisions and local and state capital expenditures programs.* The regional planning commission envisioned in the model state enabling legislation removes from the local level both the planning power and the power to regulate land use decisions and gives it to the regional community level. If this same body is given the power to review and pass upon the various public capital expenditures programs for conformance with the policy plan, the implementation of it by the capital expenditures programs should be fairly well assured (but not to the degree that a metropolitan government which develops and implements the capital expenditures program for the entire community would have).

(2) *A regional planning commission with the power to advise local governments on their capital expenditures program with an appeal.* Instead of being able to veto a local government capital expenditures program, this program would allow the regional planning commission only the power to comment on the capital expenditures programs. If the programs were in clear violation of the policy plan, the regional planning commission would have the power to appeal, either to a state-level agency or to the courts to ensure enforcement.

(3) *A regional council of governments with the power to review and comment on local capital expenditures program.* The regional planning commissions envisioned in this study are composed of directly-elected officials. A council of governments, on the other hand, is composed of one or more elected officials from each participating local government jurisdiction. Thus, a council of governments is not so much an assembly of people as it is an assembly of local governments, and no attempt is made at one-man, one-vote democratic decisions. This tends to make councils of governments somewhat ineffective at reviewing and passing upon programs undertaken by local governments because of a mutual back-scratching syndrome. Nevertheless, many councils of governments have taken their jobs seriously and can provide a relatively effective review procedure.

(4) *A-95 Review.* The Federal Office of Management and Budget circular A-95 provides that some coordinating agency must review every local government application for Federal assistance in capital expenditures programs (urban renewal, public housing, sewer grants, highway funds and the like) for consistency and compatibility. This review function is often performed by regional planning commissions or councils of government, but where these do not exist, the function is performed by a state agency. Because of the large number of Federal grant programs for various capital expenditures, the A-95 review requirement can be an extremely effective tool for coordinating capital expenditures programs. A-95 review should be expanded by the community to cover not only coordination but implementation of all of the various policies in the policy plan. If this is done, Federal dollars will be used to implement public policy at the community level, one of the basic tenets of the "new federalism."

(5) *Air and water pollution abatement programs.* The Federal water and air pollution control acts require the states to establish programs to monitor and control pollution within guidelines established by the Environmental Protection Agency. Many states, in turn, have delegated this function to regional-level bodies which have the power to issue or deny "permits" to operate a facility or activity which pollutes, or which causes pollution (such as a shopping center which attracts a significant amount of traffic). The Federal laws recognize the significant interrelationships between land use decisions and the generation of air and water pollution, and require the states to take measures to plan and control land use changes to minimize pollution. Two of the recommended policies contained in the policy planning section are designed to implement this Federal requirement at the community level. A logical extension of this policy would be to combine regional air pollution control programs and regional water pollution control programs with the regional "land" pollution control programs into one agency. If this were done, air, water, and land policies could be combined into one permit procedure, saving time and money for developers and public officials alike by creating a "one-stop permit" for all concerns.

(6) *"Staged development" through capital expenditures planning, e.g., Ramapo, New York.* Ramapo township is in Rockland County on the developing fringe of the New York City metropolitan area. It is under significant development pressure for relatively low density, single-family homes. The township is willing to accept this growth, but it has discovered that in the past, as with most other communities, such growth does not pay its own way in the community. The present residents of Ramapo are unwilling to subsidize the new growth through increased taxes for the necessary public capital improvements. They have developed a capital expenditures plan which shows the rational and orderly expansion of roads and utilities into the undeveloped areas of the county at a rate which would ensure that the expected new growth would pay for the costs of the

capital improvements. According to the capital expenditures plan, the township would grow in stages, and the entire township would not be served with roads and public utilities for eighteen years.

Development would be allowed only in the areas which are served by utilities. Thus, some developers will have to wait eighteen years before they can build (except that they may do so if they bear the entire cost of the utilities and roads to serve their development). Developers who felt that the capital expenditures program prejudiced their right to develop by making them wait brought suit, but the Ramapo "staged development" program was upheld by the appellate division of the New York State Supreme Court.

Ramapo's staged development program has come under criticism because the "ultimate buildout" of the township provided for only minimal low-cost public housing and, in the opinion of some, irresponsibly restricted the land available for much-needed housing development in the New York City metropolitan area.

The dilemma--protecting the current residents of Ramapo from having to subsidize new growth versus Ramapo's responsibility to help resolve the housing dislocations of the metropolitan area--is, like so many other land use problems, a regional planning problem. Only the metropolitan area as a whole can see to it that enough new housing is built to resolve the housing shortages in the metropolitan area while ensuring that the costs of growth are borne by the new residents. While Ramapo can insulate itself from general problems of the metropolitan area, a metropolitan-wide decision-making authority could not.*

b. Financial Incentives and Disincentives: Public Subsidies which Induce Private Developers to Implement the Policy Plan -

(1) *Unconscious subsidization.* Unconscious subsidization occurs when a new development does not generate enough tax base to pay for all of the capital improvements and public services which it requires, with the difference being paid by the original residents and taxpayers, either in the form of a lowering of services or higher taxes. Another kind of unconscious subsidy can occur when massive new development, which will ultimately pay all or more than all of the costs of capital expenditures and public services which it requires, does not generate those revenues during the short-run construction period. For instance: a town has just accepted a large new subdivision which will not be completely developed and occupied for another ten years. The new subdivision will generate enough new school children to require a new high school and several new elementary schools because the existing schools in the town are already

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* A metropolitan-wide land use planning and decision-making body is extremely unlikely. The metropolitan area of New York City comprises parts of three states and over fourteen hundred special district jurisdictions.

overcrowded. When the development is completed ten years from now, it will provide more than enough tax base to pay for the new schools. Unfortunately, the schools must be planned and built immediately in order to accommodate the first children who will be moving in. Since the tax base developed in the subdivision in the next two years will not be nearly enough to pay for the entire new school construction program, the present residents of the town are forced to raise their school taxes in order to build the schools for the residents of the new subdivision.

(2) *Conscious subsidies.* Conscious subsidies are those which are the result of an intentional decision on the part of public officials to subsidize a developer who implements a public goal. They include programs such as: the use of the eminent domain power to assemble an urban renewal site or a new industrial park, which is turned over to private developers for less than the cost of acquisition (often only one dollar); a conscious decision to assess the property at only a fraction of its "fair" assessment value; free or below cost provision of public services for a number of years (i.e., absolution from the requirement of paying local taxes for a number of years); special provisions to permit rapid depreciation of capital investments; and assessment of agricultural land at its agricultural value, rather than at its speculative value for housing development. Many of these conscious subsidies are the result of special provisions in state laws enacted to encourage new industrial expansion and thus stimulate economic growth and new employment opportunities, or (in the case of the latter) to prevent farmers from being forced off the land.*

(3) *The Vermont system of recovering excess profits from land speculation.* Several years ago, the state of Vermont adopted a special tax to discourage speculation in raw land. The tax is similar to an additional capital gains tax on quick speculative profits, except that the tax is based on a sliding scale. If, for instance, a speculator makes a two hundred percent profit in only nine months, the state tax takes almost the entire profit remaining after he pays his Federal taxes. If, however, he sells the property for a small profit during that short period of time, only a portion of that profit is subject to the additional tax. The longer the period of time which the speculator holds the property, and the smaller the profit he makes on resale, the smaller the percentage of his actual profit is taken by the additional tax. A small profit after several years is not taxed, and no profit is taxed after the speculator has owned the property for six years.+

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* For an analysis of the effects of special tax assessment programs for farmers, see White, William S., *The Last Landscape.*

+ Information on the Vermont Land Gains tax can be obtained from James Kendall, Director of Audits, Vermont Department of Revenue, Montpelier, Vermont.

C. LAND USE CONTROL REGULATIONS

1. A New Kind of Zoning and Subdivision Ordinance

The normal zoning ordinance divides the jurisdiction of the local government into *zoning districts*--e.g., residential, commercial, industrial, public facilities, agriculture--and then sets forth, for each district, the types of land uses which are permitted or prohibited in that district. Sometimes the districts are further defined to indicate, for instance, the housing densities which are permitted in different kinds of residential districts, the various types of businesses which are permitted in different commercial districts, or the types of industries which are permitted in different types of industrial districts. Generally, uses which are permitted as a "matter of right" in a district must meet certain conditions such as lot size, building size, height, setback from the lot line, offstreet parking requirements, and various other standards. Still other uses may be provided for in a district upon "special review" by the public officials. These special review uses are usually granted or denied to a developer based on the principles which underlie the development of the comprehensive plan. They, like rezonings, are often subject to charges of political abuse.

Zoning ordinances also provide for *variances* from specific technical standards which would work a hardship on the developer, and *rezonings* which, when they are granted, amount to a de facto amendment of the zoning ordinance (and thus the comprehensive plan).

Subdivision ordinances usually set forth procedures and requirements which must be met before a developer can divide a parcel of land into lots to be built upon or resold. Not many years ago, the typical subdivision ordinance contained little more than procedures for lot surveyors and the road construction crew to follow. More progressive subdivision ordinances adopted in recent years, however, have included requirements for lot layout and design which make them more compatible with the natural environment and surrounding neighborhood, requirements for water and sewer systems (or proof that water wells and septic tanks are feasible on each site) and various other measures designed to protect the lot buyer. Requirements that the subdivider dedicate a certain percentage of the land to the lot owners, or the local government, for sites for schools and parks are not uncommon. Also, requirements for posting a bond with the local government to ensure that the roads and other public improvements will meet standards set by the local government are routine. Provisions which permit or encourage the subdivider to "cluster" all of the lots to which he is entitled in one corner of the parcel, leaving the remainder undeveloped for the common use of the residents of the subdivision, are gaining popularity. A clustered development is called a planned unit development (PUD). A PUD is really a process in which the developer and the community bargain back and forth so that each gains something.

In most instances, zoning ordinances and subdivision ordinances have been adopted independently of each other; they do not relate. A developer who requires a conditional or special use permit, or a rezoning--and also requires that his subdivision plat be approved--is often subject to completely different and independent requirements and public hearings which must be undertaken sequentially. If the developer is also subject to the jurisdiction of air pollution control boards, water pollution control boards, the public health department, the school district, a host of overlapping special service districts and, in addition, is petitioning for an annexation to a neighboring city or town, he is subject to a series of processes and hearings which take months and even years. The developer's attorneys must "win" every hearing before every individual board at every step in every process. Besides making land development one of the more ulcerogenic of human enterprises, this system needlessly lowers the supply and raises the cost of new housing through delay and uncertainty. It also results in susceptibility to political abuse. And its ability to protect the environment is highly suspect.

Most important, the system does not ensure that new land development activity implements public policy.

The proposed new subdivision and zoning system of the LUDMS is designed, to the greatest extent possible, to implement the policy plan. It utilizes all of the traditional techniques of zoning and subdivision regulation mentioned above, but with the following important adaptations.

The zoning map and ordinance are based on public policy and the scientific and technical information developed pursuant to it. Thus the boundaries of zoning districts are "natural"--following the contours of the flood plain, for instance, rather than existing property lines. The traditionally developed zoning map, because it is not based on conscious public policy, attempts merely to encourage the patterns of traditional growth. But by zoning according to the policy plan, the zoning map represents desirable future uses. The old zoning system is in reality arbitrary and capricious; the new one would be technically and politically sound.

The new zoning system encourages flexibility and innovation in land use planning and discourages rigidity and balkanization of uses. While traditional zoning ordinances are negative, with a long list of prohibited uses, the new zoning ordinance would be positive with few uses absolutely prohibited. By the same token, there would few if any "uses by right" excepting those pre-existing at the time the new system was adopted (and they might be non-conforming). The critical difference between the old and the new approaches is that the latter would test or permit a use based on the policy plan with scientific and technical backup such as the environmental component inventory and analysis maps. The critical test would be: what will be compatible with the policy plan?

So far, only the special zoning features of this ordinance have been discussed, and indeed they contain the major innovations in the ordinance. The subdivision regulations contain all of the provisions of a progressive subdivision ordinance outlined above. There are two important differences, however. First, the subdivider must prove that public policy is being implemented. This ensures that the cumulative impact of the new subdivision on public policy is assessed all at once, and not piecemeal as each individual lot owner decides to build. Second, the subdivision regulations, zoning ordinance, and planned unit development regulations are all combined. Consolidation of all land use controls into one coordinated ordinance assures developers, public officials, and citizens of only one set of submission requirements and one series of hearings.

2. The Permit System

Traditional land use controls could not survive carefully developed public policy and scientific information. The permit system has been devised to overcome the futility and unreliability of pre-establishing permitted uses and densities in a zoning district. Under the permit system, no uses or densities are ever absolutely prohibited or absolutely permitted in advance of an actual proposal to develop. Land development activity is regulated on the basis of the specifics of the proposal (as opposed to the false presumption in zoning districts that all housing tracts, shopping centers, or industrial plants can be lumped together in the same category). Furthermore, permission is granted or denied based upon an accurate knowledge of the *current conditions* in the community rather than on some vague notion about the future) and *current public policy* (as opposed to public policy when the zoning ordinance was adopted, which may have been decades ago). And because there are no vested rights to develop property, there is no way for a land developer to avoid regulation and control. For these reasons, the permit system is more reliable than the zoning system for implementing public policy.*

The permit system is very simple to understand: the developer submits a proposal and evidence showing an intent to comply with the policy plan. The staff and the planning commission review the proposal and make recommendations to the elected officials. Notice is given and a public hearing is held. The evidence from the developer is heard, as well as any challenges to the proposal, and the public officials render a decision as to whether the proposal implements public policy. The public officials may of course wish to attach certain conditions or guarantees to a permit.

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* As will be seen, a permit is required to subdivide land; and the subdivision regulations used in the "combined" ordinance are also used in the "permit" ordinance. Thus, subdividers would be subject to the same requirements under either, and the distinction between the permit system and the specially adapted zoning system is all that remains.

A critical question in the permit system is one of jurisdiction: what kinds of development are subject to the permit process, and what kinds are exempt? In the model ordinance, an activity which is regulated is called a "land development activity" and it is defined. However, the definition is a general one which will probably be reworked before any community adopts the ordinance. (See Appendix B.) In general, a land development activity should be considered as any change in the use of land which, if undertaken, would have an impact on the policy plan of that community, including its biological, physical and social environment.

If the word "impact" is taken literally, such a definition with its attendant requirement of developing and filing impact statements and going through public hearings could pose a real hardship on persons making small land use changes as well as on overworked public officials.. Several features, then, should be added to the definition. The first of these is that activities which do not change the present use of land, but make its change inevitable, should be included. This is the "triggering effect." Primarily this means subdivisions. If they are included in the definition, the cumulative impact of the resulting future housing development can be determined, obviating the necessity of requiring a permit for each dwelling on each resulting lot. For minor land use changes, there should be a presumption of "no impact" for most adopted policies. Although persons wishing to make such changes would still have to obtain a permit, the requirements of the impact statement could be greatly reduced. For example, a farmer intending to build a livestock watering pond or reservoir might only have to prove that he would not be adversely affecting a downstream municipality's water supply in order to obtain his permit.*

Although zoning is often arbitrary, it does settle many questions and gives the landowner a secure and objectively discernible basis upon which to proceed. Under the permit system, everything depends on the public officials' decision in an individual case. Would the permit system be even more vulnerable to charges of arbitrary action and political favoritism than the zoning system? The zoning system is rarely if ever based on reliable data and public opinion; it affords public officials little basis for judging a rezoning application. The process for developing the policy plan, on the other hand, should develop both reliable data and reliable public opinion. It is completely open to scrutiny and participation by interested citizens. Actions which contradict the data for no apparent reason, or which obviously favor a developer and violate public policy, would thus be plainly evident. Public officials would act in peril of their political futures. If the policy plan and technical implementation devices have been carefully developed, the permit system would be less arbitrary than zoning both in appearance and in reality.

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* The requirement of obtaining a building permit should not be subject to the same exemptions as those applying to land development activities. In the case of a subdivision, for instance, the land development activity permit was granted on the basis of the housing tract's impact on public policy, and thus by implication included the impact of each resulting home, and this obviates the need for a land development activity permit for each home. It does not consider the requirement that each resulting home must comply with the standards of the building code.

One way of looking at the permit system is to say that it zones land to existing use and makes all proposed new uses subject to special review. In areas which are already zoned for more intensive uses and densities, wouldn't this be an example of the government taking a vested property right without just compensation in violation of the Constitution? *The Taking Issue*, the book by Bosselman and Callies previously referred to, should be required reading for attorneys engaged in land use matters. If the permit system were viewed as a type of zoning (which it is not), it could be viewed as simply adding a few more requirements before the landowner can develop. If these requirements (compliance with public policy) are founded upon good data and valid public opinion, there should be no legal impediment to their enforcement. On the other hand, the imposition of these requirements has also freed the landowner from all of the prohibitions on uses and densities from which he suffered under his former zoning classification. Thus instead of losing rights to develop, by subjecting himself to the permit system he actually gains many rights to develop which he did not have under the zoning ordinance.

Whether or not the permit system itself amounts to a "taking," couldn't officials in a particular case "take" all property rights by simply denying permit after permit? Such a situation is possible, depending on the policies which a community adopts, but nevertheless highly unlikely. In most jurisdictions, the courts have held that zoning does not amount to "taking" if the landowner is left with "a reasonable" or "an economically reasonable" use of his land. If the public policy of a community strongly favored the protection of prime agricultural land from development, and the owner of a one-acre parcel of such land were repeatedly denied permission to develop on that basis, he might make this case: "The public officials refuse to allow me to do anything but farm my land. But I cannot farm my land economically because it is only a one-acre parcel. Therefore, they have left me no options and have taken my land without compensation." This is not an argument against the adoption of a public policy in favor of protecting prime agricultural lands, but against the implementation of that policy in such a way as to ruin a landowner.

A permit system, based on reliable scientific and technical information and public opinion as expressed in the policy plan, has obvious legal advantages both ways. Denial of a permit has a much better chance of being upheld by the courts on a finding that it is not arbitrary and capricious and that it does not amount to a taking in that other uses would be permitted. On the other hand, one denied a permit when such denial was not based on the policy plan would have a good chance of proving that the denial was arbitrary and capricious. This is another example of why zoning is much more subject to corruption and political abuse than the LUDMS-type permit system.

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APPENDIX A

ENVIRONMENTAL RESOURCES INVENTORY AND ANALYSIS

A. INTRODUCTION

The major premise of the land use decision-making system is that environmentally responsible land use decisions are based on valid scientific information and an understanding of human and non-human ecological systems. In recent years, there has been some progress in new techniques and methodologies for relating such information to planning. Real results in terms of environmental quality have been demonstrated in some situations. Many environmental planning approaches have been triggered by the National Environmental Policy Act (NEPA) or the few "little NEPA" state acts. Since most land use decisions are not affected by the requirement for environmental impact analysis, many involved in land use planning and control have not had an opportunity to study or apply scientific interdisciplinary team planning processes. Even where such methods have been applied, the environmental information has often not been translated into actual decisions.

The Interdisciplinary Team (IDT) must analyze and communicate the many aspects of the environment which are related to land use decisions. The role of the professional in the environmental arts and sciences is critical to environmentally responsible decision making, but it has not been properly structured in land use. The approach presented here has been developed and used over a period of years by ROMCOE and others.

In developing this process, a number of approaches have been examined. Some have severe deficiencies. This process is intended to be a "middle ground" with adequate depth and breadth, oriented toward the principles of ecology, but avoiding excessive complexity and cost which may render it unacceptable at local levels of governmental application.

Most environmental resource and inventory analysis (ERIA) methodologies developed to date have several major deficiencies:

(1) They are independent of the decision-making system. Results and data can be ignored whether or not relevant to decisions being made.

(2) They are *multi*disciplinary but are not *inter*disciplinary. Various experts will analyze separate environmental components but may not deal with the ecological interrelationships between these components.

(3) They do not achieve a balance between complexity and simplicity. Some studies are so complex with such enormous amounts of data (and perhaps with computer programs and mapping) that they become unintelligible to public officials or citizens for whom they are intended.

On the other hand, some planning efforts oversimplify the environment by ignoring important components and interrelationships.

In the research for this report, various approaches were considered. "Regional carrying capacity," "ecological zoning" and other concepts were among these, but it was felt that more experimentation and research is needed on these more exotic techniques.

The IDT must be involved in communications with public officials and the public which is affected by land use decisions. The IDT must listen to the citizens to learn of their values, aspirations, concerns, and knowledge of the community. The IDT must also help the public understand how environmental systems work. How does groundwater become polluted, and how does this affect people and their environment? How do the dynamics of ecological succession affect man's use of the environment? How does revenue from development flow into government over a period of time, and how does this affect present residents? What is "carrying capacity"? What are "economies of scale"? The public must have a better understanding of many factors such as these. Sound decision making must rely on fact and reality, not on myths, fantasies, whimsy, or arbitrary or capricious value-setting which characterizes much existing land use control.

The IDT processes and outputs are intimately related to the other components of LUDMS. Significant alterations of one part of the system will affect other parts. It is recognized, of course, that all ecologists, urban designers, economists, sociologists and earth scientists have their own methods and thought processes; there is flexibility in the LUDMS process to accept these variations.

A philosophical perspective of the ERIA process is appropriate. The IDT analysis is predicated on the belief that man and nature must live in harmony, and that man is not separable from other organisms and the total environment. The goals of the National Environmental Policy Act express this belief. But sensitivity to change and disturbance of the environment does not mean that all growth and development must be stopped. It is a basic principle of environmental planning that man and nature can live harmoniously, that man's activities can occur as though he were a part of nature, which in fact he is.

B. OBJECTIVES OF THE ENVIRONMENTAL RESOURCE INVENTORY AND ANALYSIS

In land use decision making which seeks to maintain a harmonious relationship between man and his environment and to restore and enhance environmental quality, there are several basic objectives:

(1) To conduct a valid inventory of the existing environment which can be affected by, or which will affect, the use of land.

(2) To understand key ecological and social processes operating in the existing environment and the interactions between various components of the environment.

(3) To understand the values of human communities, as manifested by public participation in decision making.

(4) To assess alternative courses of action and their relationship to the environment, i.e., how they may impact the environment, and the nature and extent of environmental constraints and opportunities.

(5) To determine the location, design, and operation of land use changes so as to avoid or minimize adverse environmental effects.

These general objectives are at the heart of LUDMS.

The land use/environment relationship involves two fundamental questions. First, what constraints and opportunities does the existing environment pose to land use? Second, what impacts and alterations will land use changes have on the environment? The second question includes consideration of the ability of the environment to absorb impacts. An example of the first question is an unstable hillside; any development on it will be subject to hazard from downhill creep. An example of the second question could be increased urban runoff from changing a natural area to a subdivision; the runoff could carry pollutants into wetlands or an aquifer, thereby damaging both natural communities and possible human uses. The sum of the answers to these two questions can be called *land use suitability.*

It is apparent that to determine land use suitability both the possible land uses and character of the existing environment must be considered. In the second example, urban runoff, a third variable enters the question: can the proposed subdivision be designed to avoid adverse effects of increased runoff? This is relevant to the fifth objective, that the environment must guide land use changes.

The land use suitability questions which each IDT member must ask are:

- Does a component of the environment, or a basic interrelationship between components, indicate some limiting factors, constraints, or opportunities for environmentally responsible land uses? Can development of some kind proceed or not?

- If change is environmentally acceptable, how should it occur, and what performance standards are needed to avoid or minimize adverse impacts?

Although numerous criteria can be established for land use suitability, in general a land use would be unsuitable if:

- it would jeopardize human health, life, or property;
- it would bring about the irretrievable loss of ecosystem components and processes necessary to the maintenance of ecosystem stability and diversity;
- it would bring about the loss or deterioration of major or unique ecological, cultural, wildlife, historic, scenic, open space, or recreational resources;
- it would increase beyond acceptable limits the hazards to human and non-human species of air, water, noise, radiation, solid waste, pesticides, and other environmental pollutants;
- it would cause non-recoverable economic and social burdens or undue social and psychological stresses on the community affected.

C. ERIA TASKS

The basic tasks of the environmental resource inventory and analysis process are:

(1) Select the Interdisciplinary Team.

(a) Enlist qualified individuals from the biological, physical, and social sciences and the environmental design arts.

(b) If at all possible, enlist individuals with practical experience in land use decision making or with experience in ERIA.

(2) Develop a Study Design.

(a) Determine that the Interdisciplinary Team is well organized and that the subsequent activities are properly structured in sequence, methods, etc.

(b) Identify the geographic scope of potentially significant effects of land use decisions.

(c) Obtain public involvement from the very beginning.

(3) Inventory the Existing Environment.

(a) Inventory components of the existing environment; develop a data base.

(b) Work with the public in articulation of public concerns as related to the existing environment.

(c) Identify the critical environmental components and what ecological principles and time dynamics are most important.

(d) Provide an "Early Warning Report" for the community to assist in statements of goals and policies, to assist in formulating alternative futures.

(4) Report on Environmental Resource Inventory and Analysis and Land Use Suitability.

(a) Identify limiting factors and constraints which restrict or prohibit land uses, and how and where these factors operate, for components and for interactions between components.

(b) Identify opportunities for land use which meet community goals and enhance the community.

(c) Correlate the scientifically acquired information with possible policies.

(5) Develop Alternative Futures and a Policy Plan.

(a) Working with the planning staff and CAC's, identify alternative policy/land use patterns for the future.

(b) Develop an understanding of relationship of land use suitabilities with the alternatives for the community, and of the social, environmental, and economic impacts of futures; assist staff in writing a "programmatic environmental impact statement."

(c) Assist citizens and public officials in the development of the policy plan.

(6) Design Implementation Programs Based on Design Criteria.

(a) Develop standards and findings on which permission for development and conditions for development should be based.

(b) Assist public officials and citizens in formulating programs and projects for community.

D. GENERAL CONSIDERATIONS

(1) Geographic Scope.

This particular ERIA methodology is developed for either regional or local planning and decision making. This does not mean that statewide or even regional studies covering parts or all of several states could not be undertaken. But the acquisition and analysis of information and the articulation of public concerns must be on an appropriate scale. Therefore, environmental studies must cover an entire planning region.

Where it appears that constraints or impacts may exceed the boundaries of the region, the study must assess these extra-regional conditions. Examples could be a river basin or air shed which crosses planning jurisdiction boundaries. Water or air quality considerations may require information on areas outside the planning region. Habitat of wildlife or a commercial fishery may exceed the artificial boundaries of planning regions, so habitat studies must not artificially stop at a geopolitical border.

A second aspect of the geographic scope is to correlate study area size with level or intensity of detail. Regional and most local planning necessarily involves a rather "coarse-grained" or "broad-brush" inventory and analysis. This may seem to pose a real problem to decision making for many environmental professionals who are used to studying small ecosystems. However, if broad-brushed analysis indicates an apparent land use constraint, further analysis is required by a developer before a decision can be made. If the broad-brush mapping indicates no constraint, or a minimal risk of a constraint, then the decision can be made without further analysis. The level of detail can vary within a planning region.

(2) Data Handling.

A key ingredient to responsible land use decision making is the presentation of data in a usable form; especially important are the communications considerations of information presentation. It is important, therefore, that every aspect of data handling in this process must emphasize clarity. Terminology must be transcribed from scientific to more readily understood terms. The relationship between the data acquired and its communication is primarily one of map making and other graphics. Spatial locations of characteristics of the environment are essential. Computer mapping is one technique which is gaining some popularity and value. However, for LUDMS, computer mapping is not specified. A word of explanation may be in order. Basically, computer mapping has several problems which affect its usefulness and value. First, it is not a good means of communicating with the layman; computer maps will confuse many people. Second, computer equipment and trained personnel are not readily available to many planning bodies in most cases, or if they are available, they may be expensive and not in a convenient location. Third, there is a tendency to become more concerned with data handling per se than with sound analysis of the environment and the interaction of an interdisciplinary team with laymen. Fourth, methodologies in computer mapping and data manipulation are still rather experimental, and planning offices may become diverted into studying what computer system to use.

LUDMS does not exclude computer mapping, but it does not rely on it. Manual mapping is presumed. In communications, not only maps but other graphics including photographs, sketches (such as transects or geological sections), charts and graphs are essential.

(3) Level of Complexity and Detail.

The professional involved in the application of the LUDMS may have experience in extremely sophisticated research. The relative simplicity of the LUDMS may, in comparison, seem irresponsible or unsophisticated. But the scientist must bear in mind that this system strives to balance a number of considerations: cost, availability of talent, communication with laymen, utility of information to decisions, the time frame of the planning process, the behavior of ecosystems and human systems, the built-in complexity of government, legal matters, politics, and other factors. The net result of the balance tends more toward simplification than oversophistication.

(4) Maps and Graphics.

The IDT must define, with certainty, what it is striving for and what it intends to produce. Basically, the following output is sought:

- Maps which display the components of the existing environment, with accompanying text and graphics; the data base.
- Maps which display basic interactions, with accompanying texts and graphics; the analysis and "environmental response units."
- Texts and graphics which display social, institutional and physical development conditions and trends of change.
- Maps, text and charts or tables which describe the suitability for various land uses.
- Descriptions of performance standards which must be met if changes are made which affect components or interactions, and which should guide design; this may be in the form of text, tables, and graphics.

(5) Interdisciplinary Team (IDT).

The process described herein is created to mandate interactions between the members of a team and between the team and the public. However, no forcing of the interactive communications will occur unless the team members have the capabilities and desires to interact. The mutual sharing of information and sorting out of its significance to others is essential. The urban designer must understand the hydrologist, the sociologist must understand the engineer, etc. There is no formula for such human dynamics. But it is critical for the team manager to bring about good internal team relations.

Managing an interdisciplinary team is no easy task. The team must stay on schedule, interact with officials and the public, communicate within and outside of the team at the proper times, and produce written/mapped data in the proper format and at the proper times. The team leader is the one person most responsible for the thought processes of an environmental study team.

The IDT must include professional specialists capable of dealing with each component. At a minimum it should include:

- Environmental geologist, competent in bedrock geology, soils, geomorphology.
- Climatologist, competent in environmental aspects of climate, air pollution measurement and modeling.
- Hydrologist, competent in surface and groundwater, water quality, and comprehensive aspects of environmental and civil engineering hydrology.
- Plant ecologist.
- Animal ecologist, competent in animal ecology, and familiar with herpetology and invertebrate ecology.
- Aquatic biologist, competent in aquatic ecosystems; if both fresh and oceanic systems exist, a limnologist and a marine biologist may be needed.
- Regional planner.
- Sociologist.
- Economist.
- Urban designer.
- Landscape architect or scenics and recreation specialist, competent in visual analysis and recreation planning.

Additional team members may include:

- Invertebrate ecologist.
- Herpetologist.
- Civil engineer (urban infrastructure and utilities).
- Acoustical engineer.
- Health facilities
- Demographer.
- Archeologist.
- Historian.
- Lawyer.

E. THE INTERDISCIPLINARY TEAM PROCESS IN POLICY PLANNING

This section describes the process which the IDT should follow. A delineation of where the team must interface with the planning commission and the Citizens' Advisory Committee has been given earlier in this report. (See p. 29.) The policy planning steps referred to are in parentheses.

(1) Preplanning (Steps 3, 4, 9, 11, 12, 13)

(a) The planning commission selects the project manager who must be experienced in interdisciplinary studies, have a familiarity with roles of other professions, and have administrative and managerial abilities. He must be a good communicator. He may be a specialist in one discipline on the team. The project manager should be selected by a small committee of planning commission members, the chief planning officer, and key citizens.

(b) Initial Reconnaissance. The project manager, a planner and a natural resources expert should tour the region by air and on the ground, and conduct research on existing information.

(c) Develop Interdisciplinary Team. With the Citizens' Advisory Committee, the project manager would discuss regional characteristics, needs, problems, composition of the interdisciplinary team. He would locate possible members (from universities, agencies, private consulting practice) with expertise to cover all components.

(d) Initial Team Meeting and Reconnaissance. The IDT should conduct an aerial and ground tour of the planning jurisdiction and possible geographic extensions of the study area beyond the jurisdictional boundary. It should discuss the study purposes, objectives, methodology, logistics, etc., with the project manager, and should meet with citizens to discuss community concerns and the study approach and schedules.

(e) Preparation of the Study Design.
- Each investigator should do limited research on existing data.
- Each investigator would develop a component study design stating:
  - Objectives: what he intends to accomplish in inventory and analysis;
  - Methods: how he intends to do his work, what existing data he will use, what field work is needed;
  - Budget, logistics, and special considerations.
- A composite study design would be developed by the project manager from the component study designs.

(f) Finalize the Study Design Contract.
1. The project manager, team, and CAC would meet to discuss the study design, revise and refine it. An overall IDT contract is completed; contracts would be negotiated with each investigator.
2. Environmental Resource Inventory (Step 13). The IDT should develop base maps, locate all existing information, commence field work, and develop liaison with agencies and the CAC. It should also take photographs and establish techniques for communicating environmental information to officials and public.
3. Early Warning of Critical Components (Step 15). After an initial amount of field work, the IDT would identify the components and their locations which are most critical to the environment, or are most sensitive to impact, and which relate and interact most strongly with other components. It would provide a report on these components, with maps.
4. Analysis of Land Use Suitability (Step 18). Component analysis: Each team member would identify and map limiting factors, constraints, and opportunities for each component. It is essential to recognize that a single factor can constitute a limitation to the use of land. Define terms for each component for the following, which are only examples of the types of ratings which might be utilized:

   P = Prohibited to development due to extreme hazard or constraint or high value conservation area which could be severely and irretrievably impacted and should be preserved.

R = Restricted to development due to hazards or constraints to certain kinds of land uses, or where special criteria are needed for design to avoid or minimize adverse impacts, or which should be developed with restrictions due to the presence of high value environmental characteristics.

O = No special environmental values, no constraints for development for specified land uses.

D = Desirable, no prohibitions or restrictions; strong compliance with community policies if developed. Especially propitious for development.

If constraints relate to certain land uses, a table which relates locations to land use would be useful in ratings:

Area	Low Density Residential	High Density Residential	Etc., Etc.
1	P	O	O
2	P		R
3	P	R	O

The listing of land uses, or their categorization, has not been developed in this report. It is not feasible to universalize this categorization, and one must be developed to meet local situations. The IDT should participate in formulating the land use categories, and some may be described in ecological terms.

Interrelationship analysis (Step 18): Using the techniques of the Strength-of-Relationship Matrix and the Environmental Response Unit (described in detail below), the IDT would analyze significant relationships between the components of the environment, and would rate the units for suitability/impact resistance. It should also describe general policies and programs which relate to the concerns and the inventory/analysis of the community.

5. Implications of Alternatives (Steps 22-23). As described in the section on policy planning (Section IV), alternative policy plans should be developed, and the IDT should help assess their implications. Some of this can be done with maps, some will need texts or charts for good communication. Where specific features of the region might be impacted by an alternative, it could be so indicated (e.g., continuing expansion of an existing industrial area would impact wetlands, would cause potential chemical explosion hazards to the existing residential area, etc.). The report would be comparable to a "programmatic"

Environmental Impact Statement conducted under the guidelines of the Council on Environmental Quality for the National Environmental Policy Act. However, it should be simple, clear and concise. It should portray as clearly as possible what the regional land use and environmental futures are for basic broad-brushed policy alternatives.

6. Inventory and Analysis. The environmental resource inventory and analysis methods developed and used by ROMCOE in the past, and those used by most applied and pragmatic land studies, are based on the resolution of the environment into biophysical and sociocultural components. The process of inventorying components and analyzing interrelationships is much more critical than developing a "shopping list" approach. The basic breakdown of components which is recommended is flexible to an extent, especially in the human systems. Here, the final component array must be determined by public involvement in the preplanning (study design) phase of work.

   Following is a component description, with a general description of the inventory for the component. The descriptions are deliberately kept general here; the entire process requires the IDT to expand the inventory in the study design phase.

   Biophysical Components (the Natural Environment):

   - Bedrock Geology. Describe the bedrock geological formations of the region. Specifically note aspects of the bedrock geology which are relevant to land use, such as constraints (faults, mass movement, mineral resources, expansive shales, subsidence, etc.) and opportunities (soil structure, hydrology, etc.).

   - Surficial Geology. Describe soil associations and their characteristics such as thickness, origin, permeability, erodibility, stability in terms of movement, commercial resources, etc. Determine agricultural land classes.

   - Geomorphology and Physiography. Describe and map landforms, characteristics, origins, and processes causing rapid (human time scale) change, such as alluvial fan formation. Note conditions of special scientific interest. Describe water-related physiography. Map topography as a base map. Map topographic hazards such as avalanche paths, river bank erosion, etc.

   - Climatology. Describe macroclimate conditions, major weather characteristics, extremes, growing season. Describe air quality, pollutant patterns and characteristics which affect air quality (inversions and air movement). Relate to state air quality regional plans and implementation strategies.

(Note: These is a broad range of air quality studies and models, and no one approach is recommended. For many situations, fairly simple box models should be adequate. This component inventory should be worked out with technicians from the state air quality control agency, and could relate to Air Quality Control Region studies.)

. Hydrology. Describe and map surface water characteristics. Include flows, yields, high water lines of flowing and fluctuating standing water, of natural and man-made features. Describe water quality and pollution characteristics. Describe and map surface and groundwater characteristics. Describe water usage in the region and water supply functions of watersheds and wetlands. Discuss status of planning under the 1972 Amendments to the Federal Water Pollution Control Act (e.g., Sections 101, 208 and 303). Discuss special features of concern, such as groundwater table changes, saltwater intrusions, etc. Emphasize land-related aspects of water, as contrasted with water resource development. (Note: As with air quality, water quality studies can be exceedingly complex. It is not the intention of this report to suggest a complete river basin study or Section 208 planning process, although for some regions this may be desirable in integrating such studies with land planning. Again, simpler approaches may serve in most instances, and this study should be developed in conjunction with state water pollution control officials.)

. Vegetation. Map vegetative ecosystems. Describe the ecological and human use conditions and limiting factors which determine vegetative types and status. Discuss special features such as soil relationships, unique ecosystems, diseased vegetation, ability of vegetation to recover from disturbance and unusual conditions such as invasions by new species. Include agricultural and livestock aspects of vegetation, and commercial timber resources. Identify forest and brush fire hazard areas.

. Animal Ecology. Inventory animals, including large mammals, small mammals, birds, reptiles and amphibians. Note rare and endangered species. Discuss habitat characteristics, limiting factors, community structure, and roles of significant or unusual species (including manipulators, indicator species, etc.).

. Aquatic Biology. Inventory aquatic (fresh and marine) flora and fauna; study and map significant aquatic habitats, especially commercial and sport fisheries and beds, and anadromous fishery. Describe physical characteristics of water which affect biological productivity. Discuss indicator organisms, limiting factors and community structure.

Sociocultural Components (The "Human" Environment):

- Land Resources.

  Land use inventory--Inventory existing land use and map land use patterns, including zoning.

  Land ownership--Inventory public and private ownership patterns. (In private ownership, aggregate holdings under given acres into "small holdings.") Map jurisdictional boundaries of units of government, including special districts.

- Recreation Resources. Using Bureau of Outdoor Recreation land classification system, inventory and map recreation land classes; determine recreation activity and use capability by land classes. Assign relative values to recreation land classes based on ability to meet needs and provide opportunities. At specific sites, assess on-site use consistent with use categories of the state outdoor recreation plan.

- Scenic Resources. Map visual absorptive capacity. Map visual corridor inventory. Map special and unique scenic features and vistas.

- Archeology and History.

- Service Infrastructure.

  Transportation--Inventory existing transportation facilities, using data from traffic engineer, highway department. Describe facilities needing improvements due to condition or capacities. Define needs as perceived by the community, and potential for transit. Identify areas where transportation facilities cause adverse environmental impacts. Discuss costs and revenues if appropriate.
  (Note: This is not intended to be a total transportation systems analysis and plan, but rather an overview and general survey. Again, as with air and water quality planning, a major transportation study is possible. It is presumed in the LUDMS that this would grow out of the policy planning; such an approach would ensure that transportation plans are developed from land use plans. The "Highway Action Plan" required by FHWA PPM 90-4 should be related here.)

  Water supply--Describe existing facilities and general characteristics of water supply/treatment system, including future capabilities for forecasted growth. Discuss costs and revenues.

Wastewater management--Inventory and map major wastewater facilities (sewage plants, interceptor sewage lines, lagoons). Describe capabilities to handle growth. Relate to facility planning under 1972 Amendments, FWPCA. Describe sludge disposal, discharges, etc. Discuss costs and revenues.

Power facilities, energy supplies--Inventory power stations or sources, gas/oil supply systems, etc. Relate capabilities to growth forecasts.

Solid waste disposal--Inventory locations, types of solid waste management facilities. Inventory problems (odor, water pollution, etc.). Discuss costs and revenues.

Storm drainage--Inventory urban drainage and storm water facilities. Identify problems, such as water pollution, overloaded facilities. Discuss costs and expenditures. Relate to requirements of 1972 Amendments, FWPCA.

- Social Services and Public Health.

Health facilities--Inventory health facilities, hospitals, outpatient clinics, psychiatric, physical therapy facilities, etc. Discuss community needs, statistics, and conditions of health. Describe costs to community.

Police and fire protection--Inventory facilities and services. Discuss needs, apparent problems, costs.

Library, cultural and similar facilities--same as above. Discuss adequacy, locations vis-a-vis population, access by transportation.

Day-care, youth centers, and similar facilities--same as above.

Employment centers.

Courts, legal services, public buildings.

Education--Inventory all facilities, including vocational-technical. Discuss community perception of needs, relate to statistics.

Religious facilities.

- Health Hazards and Noise. Indentify potential problems such as chemical storage or manufacturing. Identify areas of high ambient noise levels.

- Demography, Employment and Commerce.

Population--Inventory age groups, income stratification and other demographic characteristics, including population densities.

Employment--Inventory primary and secondary employment characteristics and trends of change.

Government--Discuss finances, tax structure, municipal bonding, etc.

Religious facilities--Inventory churches, cemeteries, etc.

- Urban Design and Social Groups.

Social groupings--Inventory basic social groupings and community perceptions of problems, such as unsafe neighborhoods, rapid transition zones, etc.

Urban design--Map relatively homogeneous areas (neighborhoods, central business district, commercial strips, etc.); describe visual character, blighting features, functional features in general (such as degree of self-containment, social places, etc.)

7. Analysis of Component Suitability. There are a number of techniques and methodologies for identifying and mapping land use suitability based on the sensitivity of various environmental components to man-made changes. Such a map might be called a "land use suitability map" or an "environmental constraints and opportunities map." What is important is that citizens and public officials understand the data. Colors and patterns can be utilized to show some of the characteristics of the following components:

   - Geology. Indicate areas of unstable geology (fault zones, subsidence areas, avalanche zones, rock slide areas, etc.) as well as areas particularly suited to development.
   - Soils and Geomorphology. Map soil types, topography, degrees of slope, etc.
   - Climate. Map precipitation, airshed, areas of critical air pollution potential, wind directions.
   - Hydrology. Map flood plains, 100-year flood data if available, water table, springs, man-made water developments, and other conditions.
   - Vegetation. Map vegetative types as a guide to sensitivity to change. Identify unique ecosystems, productive forage, prime agricultural lands, etc.
   - Wildlife. Identify ecologically significant habitat, such as winter range. If possible, map species of particular public concern.
   - Fishery. Indicate habitats for anadromous fishery, rare and endangered species, and habitats particularly sensitive to change from thermal effects, etc.

The above list is by example only. It is not all-inclusive and some obvious components are omitted or will be much more important in one part of the country than another. With the exception of recreation resources, scenic resources, and archeological and historic sites, mapping of sociocultural characteristics will not lend itself to the same techniques.

By combining the characteristics of these and other components, it is possible to "rank" the sensitivity of areas of the planning unit by "environmental response units." These units really summarize the relationships of various components. One way is to rank these results of such an analysis from "lowest potential for high negative impact" to "highest potential for high negative impact." The simpler system previously described in this Appendix which uses the "P" (prohibited), "R" (restricted), "I" (improvement) is acceptable and more understandable to laymen. There is no magic formula. One important thing is to show graphically where certain kinds of development can and cannot occur based on an analysis of scientific data. The second important thing is that the definitions and maps must directly relate to policies and types of technical evidence which will be written into ordinances for legal controls.

8. Analysis of Interrelationships of the Existing Environment. One of the more difficult yet most important portions of any interdisciplinary study is the identification of interactions and significant relationships between the components of the environment. A study which is ecologically responsible must concern itself with interrelationships and with triggering effects. The LUDMS analysis is not proposed as a true ecological study; complete descriptions of energy flows, trophic levels, detailed food chains, population and community dynamics, material cycles, and similar matters are not proposed. A methodology is proposed in this report which is a simplified, workable approach to developing a basic understanding of interrelationships. This method depends on field research, mapping of information, strong interaction between the various disciplines, and a matrix analysis of basic interrelationships. The method described has been developed by Dr. Howard Alden, an outdoor recreation specialist at Colorado State University, and has been used in various resource and land use planning studies by ROMCOE and Thorne Ecological Institute of Boulder, Colorado. It is related to other approaches used by the Lake Tahoe Regional Planning Commission, U.S.G.S., Forest Service, Bureau of Land Management, Northern Great Plains Resources Program and others.

It is recommended that this analysis be limited only to critical components and relationships. Complete analysis of all relationships is prohibitive in terms of time, money and complexity. This system proposes that ecological or "environmental response units" might serve as technical information for legal control of proposed actions.*

A number of jurisdictions have adopted policies which refer to "related areas" or interrelationships. Florida is concerned with the Big Cypress region because of its watershed relationship to the Everglades National Park. The proposed Big Cypress includes "such contiguous land and water areas as are ecologically linked with the Everglades National Park, certain of the estuarine fisheries of South Florida, or the fresh water aquifer of South Florida." After a proposed 1,568,000-acre "buffer zone" was legislatively quashed, planners had to re-examine the proposal to see what areas could be supported with hard facts as being "ecologically linked." The next proposal was for 855,000 acres, which included only the most sensitive and critical areas.

New Castle, New York, in its wetlands ordinance, warns of "encroaching upon, despoiling, polluting or eliminating many of the town's wetlands, water bodies, water courses and *other natural resources and processes associated therewith.*" It states that wetlands "and other related natural features of the terrain" shall be protected. The question, scientific and legal, of what are "other related natural features" is of great importance. These features contribute or limit sediment, pollutants, water yield, and so forth. They can be considered, along with the wetlands, as part of the wetland "environmental response unit." However, to reiterate, the environmental response unit analysis should be limited to those relationships which are critical to environmental quality or community concerns.

The basic component inventory consists of a record describing, quantifying and evaluating the various components of ecosystems in their present conditions (environmental baseline data). These inventory characteristics should be mapped on working maps for spatial location. Overlays should be made, both for working purposes and for citizen/agency information purposes.

For the purposes of assessing the strength of relationships among components of the environment, and comprehending how the dynamics of the environment function in a given area, the environmental components should be arranged into a "Strength-of-Relationship Matrix" (SOR). The SOR matrix, with supporting studies, arrays environmental components on the horizontal axis against the same components on the vertical axis so that subsequent primary and secondary impact assessment can be more fully understood. (See Figure "y".)

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* Environmental Response Unit is a term for those areas of land and water due to their environmental and ecological characteristics (soils, vegetation, hydrology, scenic attributes, etc.) respond with various degrees of sensitivity to man-induced modifications or to natural changes.

The horizontal axis of the matrix is assumed to be "active" and the vertical axis is assumed to be "passive." Any force on the horizontal axis can have a relationship to a passive element on the vertical axis. A perturbation to an active force can then be related to the components on the vertical axis to which this perturbation will extend. The first order will be primary effects; a second run-through of the matrix could display secondary effects. Only the most rigorous effect of the primary or secondary need be identified. The example shown uses arrows for conceptual purposes; in real use the strength should be indicated by the number corresponding to:

0 = none
1 = low
2 = moderate
3 = high

The definitions for the terms for each component must be developed as indicated in Figure "x". The summations for each component will then indicate those components of most critical significance. Not all of these relationships are significant at a given area; nevertheless all relationships should be considered.

It is essential that the IDT determine how far to disaggregate their components. For example, some disaggregations might be as follows:

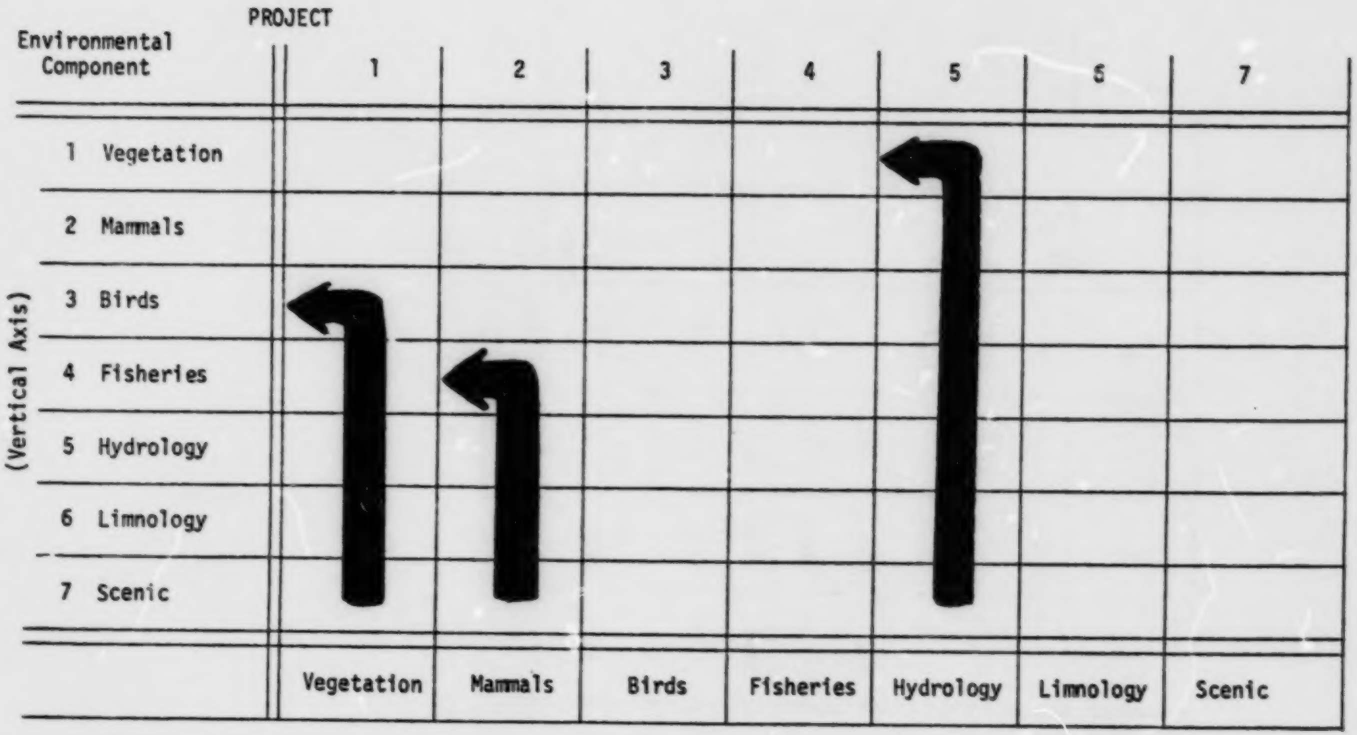
Component	Significant Elements
Soils	Erodible soils Mass failure risk Agriculturally productive soil Expansive soils
Animal Ecology	Major game Bighorn sheep Predators Birds, game Raptors Small mammals Reptiles and amphibians

Figure "z" indicates how the SOR Matrix is used with the definitions of interrelationship strength.

Next, knowing *what* the primary relationships between components are and *where* they occur for each degree of interaction (high,

TERM	DEFINITION
NONE	Not an element of the visual landscape or not a measurable interactor.
LOW	May or may not be present in the landscape, but when present enhances the landscape--not critical or necessary as a major element.
MODERATE	Always present and always contributes to the makeup and quality of the landscape--presence is not critical or not necessary as a major element.
HIGH (Significant)	Force always present and always contributes to the makeup and quality of the landscape--absence would constitute a major significant detraction.

Figure x. Strength of Relationship Definitions Example (for Scenics).


PROJECT
Environmental Component
1
2
3
4
5
6
7
1 Vegetation
2 Mammals
3 Birds
4 Fisheries
5 Hydrology
6 Limnology
7 Scenic
(Vertical Axis)
Vegetation
Mammals
Birds
Fisheries
Hydrology
Limnology
Scenic

Active Forces (Horizontal Axis)

Arrows are examples of how an active (or independent) variable on the horizontal axis affects a passive (or dependent) variable on the vertical axis.

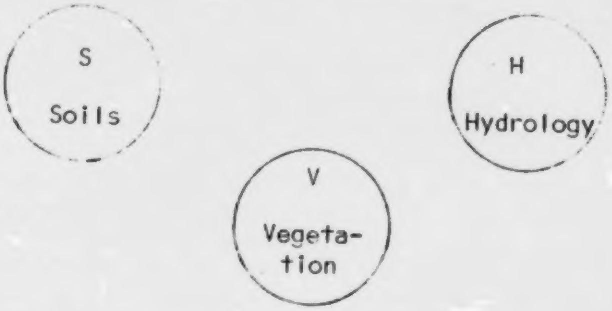
Figure y. Composite Strength of Relationship Matrix--Conceptual

	Project Environmental Component	1	2	3	4	5	6	7
(Vertical Axis)	1 Vegetation		Mod	Low	None	High	None	High
	2 Mammals	High		Low	Low	Mod	Low	High
	3 Birds	High	Low		Low	Mod	Low	High
	4 Fisheries	Mod	Low	Low		High	High	Mod
	5 Hydrology	High	None	None	None		Mod	High
	6 Limnology	Mod	None	Low	Low	High		Mod
	7 Soils	High	Low	None	None	High	None	
		Vegetation	Mammals	Birds	Fisheries	Hydrology	Limnology	Soils
		Active Forces (Horizontal Axis)						

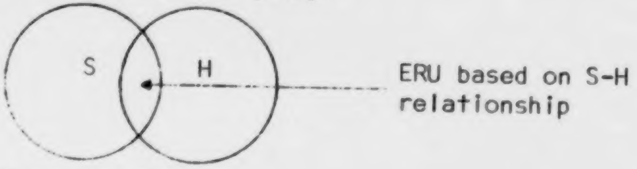
Figure z. Composite Strength of Relationship--Conceptual.

moderate, etc.), a map can be made of landscape units of these interactions. These can be called "Environmental Response Units"; they are homogeneous units of land area that, due to their environmental makeup, respond in a more or less predictable way to modifications generated by man or nature. For example, if there is a high strength-of-relationship between a subalpine meadow, elk and subsurface water, and the areas where this high relationship occurs have been mapped, these areas can constitute a high-relationship environmental response unit. It may be found that in some locations several basic ERU's overlap; these then constitute a multiple-relationship ERU by and in themselves. The spatial relationship should indicate the entire geographic scope of the strength-of-relationship. For example, if a soil erosion-limnology relationship could exist, and if a disturbance to soils could cause erosion which impacts a given length of stream, the entire length would be part of the ERU with the area of erodible soils.

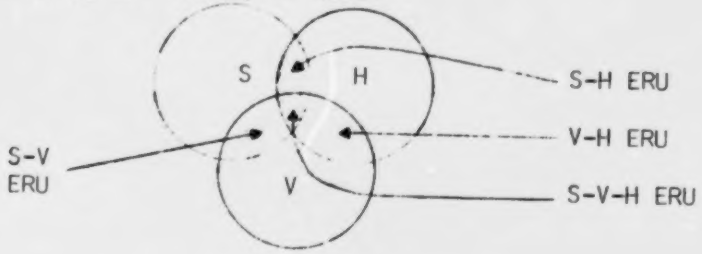
To illustrate the concept, let us assume that we are dealing with three components of soils, hydrology and vegetation; these are mapped in a generalized way as:



Where the Strength-of-Relationship (SOR) shows a strong interrelationship between S and H, we have areas where this creates an Environmental Response Unit (ERU):



Combining all three, we have:



General interpretation of the matrix which follows is important to identify those components which consistently have a high strength-of-relationship relative importance as an active force, and sensitivity to active forces. Since a matrix is a simplistic representation of the environmental dynamics of an area, key descriptions and narratives are provided to allow examination of relationships in greater depth and to provide investigators with a better feel for the environmental dynamics of the area.

9. Describe Impacts of the Policy Alternatives. The final task of the IDT in planning is to describe the impacts and implications of the policy alternatives which should be presented as land use pattern alternatives. This research has examined several methods used by others, but has no specific recommendations. The Mammoth Lakes, California, study conducted by the University of California at Los Angeles and the Colorado Regional Transportation District are two good examples. These studies lay out alternative growth and density configurations, their effects on the biophysical and sociocultural environment, and their effects on other policy-related matters such as ability to implement transit systems.

After policy planning is completed, the IDT would be involved in the technical/legal implementation. Policies must be expanded into findings, standards and evidence. The IDT must be involved in this process. Also, it should be involved in action programs and projects in various ways. For example, if the policy plan contains a policy on improving transit, a program to conduct a more detailed transit study may be developed. The IDT should be involved in the environmental studies. If the transit study develops specific projects, these would involve the IDT in the environmental information for project decisions.

APPENDIX B

MODEL LAND USE CODE SUGGESTED

FOR LOCAL UNITS OF GOVERNMENT

Containing provisions for both a "permit system" and a "zoning system" of controlling and guiding land use.

NOTE: The common provisions of both ordinances and the special provisions for the permit system are set forth in normal type, while the special provisions for the zoning system are set forth in *italics.* The code has been written for an elected "Regional" Planning Commission which adopts the policy plan, and elected local government bodies (the "Board of Commissioners") which implement the policy plan through decisions on land development proposals. With slight modifications, it can be adapted for use by any jurisdiction--or combination of them--with any kind of planning commission and any kind of local or regional jurisdiction.

ORGANIZATION

CHAPTER 1. GENERAL PROVISIONS

CHAPTER 2. DEFINITIONS

CHAPTER 3. PERMITS REQUIRED (ZONING PROVISIONS)

CHAPTER 4. PREAPPLICATION PROCEDURE

CHAPTER 5. PROPOSAL REVIEW PROCEDURE

CHAPTER 6. POLICY REVIEW PROCEDURE

CHAPTER 7. PERMIT PROCEDURE

CHAPTER 8. MISCELLANEOUS PROVISIONS

CHAPTER 1

GENERAL PROVISIONS

1.10 Title. This ordinance is entitled, and may be cited as, the (jurisdiction) Land Development Code of (year).

1.20 Authority -- Board of County Commissioners. The Board is authorized and empowered to adopt and enforce this code pursuant to (state statute).

1.30 Authority -- Regional Planning Commission. The Commission is authorized and empowered to perform all functions of regional planning commissions pursuant to (state statute).

NOTE: This draft model ordinance presumes that the planning and advisory function is performed by a regional *planning commission and that decisions on land use are made by* local level *elected city and county governing bodies in the region, all of whom adopt the common set of policies adopted by the regional planning commission.*

1.40 Jurisdiction. The geographic jurisdiction of this code shall be all of the territory of (local or regional governing body) as established by (state statute).

1.50 Purpose, Interpretation. The provisions and requirements of this code are founded upon the (name of region) Policy Plan of (year), as amended, and the purpose of this code is to implement that plan. Ambiguities in interpretation shall be resolved so as to substantially implement the provisions and policies of that Plan.

1.60 Control. No person or other legal entity shall undertake, conduct, or use, or cause to be undertaken, conducted or used, any land development activity within the jurisdiction, except in conformance with the provisions of this code. Violation of this provision, upon conviction, is punishable by (insert language from state statute). In addition, the Board may, in its discretion, apply to the district court for such civil and equitable relief as is authorized by (state statute).

1.70 Severability. A finding that any section or part of this code is illegal or unconstitutional shall have no effect on the enforcement of any other section or part.

1.80 Scope. Repeal of this resolution does not abrogate or annul any building permit, certificates of occupancy, variance or other lawful permit or any easement, covenant or other private agreement issued or effective before the effective date hereof.

Any policies, standards, criteria, technical review procedures or other requirements governing or affecting land development activities adopted by the (state legislature), or the (state land use commission), which are more restrictive than those contained herein, are included herein by reference and are made substitute for the provisions hereof. All requirements for land development activities adopted before the effective date of this code are repealed.

1.90 Effective Date. This code shall take effect immediately upon passage.

CHAPTER 2

DEFINITIONS

2.10 General Rules of Interpretations. When used in this code, certain words should be interpreted as follows: the masculine includes the feminine and neuter gender; words in the present tense include the future tense; words in the singular number include the plural number; and the word "shall" is mandatory and not permissive.

2.20 Definitions. When used in this code, the following words shall have the following meanings:

2.21 Accept -- in reference to a proposal: to certify that the contents of a proposal are complete, according to the provisions of this code, and to acknowledge receipt therefor. It does not connote approval.

2.22 Adequate Public Notice -- of a meeting, shall mean publication of the time, date, place and subject under consideration, and where a copy of the subject may be obtained or studied in the official publication of the (jurisdiction) at least once a week for the two consecutive weeks before the meeting; and, if the subject is a proposal, one sign on the site of the proposal at least three feet by four feet, at least three feet from the ground, for every two hundred feet of boundary of the site along a public right of way, posted continuously for at least two weeks before the meeting and containing the same information as the published notice.

2.23 Aggrieved -- an aggrieved person or other legal entity is one with standing to sue as such is defined in the laws of (state).

2.24 Approval -- in reference to a proposal: to find that the proposal implements all adopted policies.

2.25 Best Available Technology -- such materials, equipment, technique, process or method or combination thereof, which, when applied to a specific land development activity or use, produces the result which enables it to approach most closely, in terms of quantity or quality or combination thereof, the implementation of a policy.

2.26 Board -- The Board of Commissioners of (jurisdiction).

2.27 Citizens' Advisory Committee -- a voluntary citizens' committee organized in each neighborhood pursuant to section ______ of the (model state legislation), and officially recognized by the Commission as such.

2.28 Code -- the (jurisdiction) Land Development Code.

2.29 Commission -- the Regional Planning Commission of (jurisdiction).

2.30 Condition -- a development schedule, use restriction or covenant, conveyance, construction guarantee, or commitment letter, or any combination thereof, deemed necessary or desirable by the Board in order for it to make a finding. Conditions attached to a finding become conditions on approval of a proposal.

2.31 Constraint -- a policy and the information associated with it which limits the type, size, density or design of possible uses on a site. The *Constraints Maps*, when adopted, show the type and location of each constraint.

2.32 Criterion, Criteria -- the result or results required of a proposed land development activity to implement a policy. Compliance with criteria is determined by *technical review procedures.*

2.33 Evidence and Testimony -- statements, documents, photographs, graphics, etc., relevant to the subject, made by any person or their legal entity on the subject. Evidence and testimony need not be taken under oath.

2.34 Finding -- a motion which, when adopted by the Board, indicates that a policy is implemented by a proposal.

2.35 Guarantee -- a condition on a finding which requires that a bond, other surety or collateral, or improvements agreement be posted before a permit is issued, to ensure implementation of the policy pursuant to the finding.

2.36 Impact Statement -- a form which, when completed by a proponent, sets forth the impact of the proposed land development activity on a particular policy and the measures which the proponent has undertaken or will undertake to implement that policy. The impact statements for each policy, taken together, comprise the impact statement for a proposal.

2.37 Improvement Agreement -- a promise, by a proponent, to compensate the (jurisdiction) for all its expenses in monitoring required construction, and correcting such construction if not according to the applicable standards and criteria and terms of the condition.

2.38 Interdisciplinary Team -- the experts in ecology, economics, sociology, earth sciences and urban design, and such others as may be added from time to time, in the employ of the Commission.

2.39 Land Development Activity -- either of the following:

2.39.1 Any change in the actual use of land or improvements thereon, including but not limited to the construction of improvements and buildings, or a change in the type or intensity of activity therein, which affects one or more adopted policies. Notwithstanding the provision, the following are not land development activities:

2.39.11 Any change from one agricultural use or crop to another which does not constitute a significant change in environmental impacts;

2.39.12 Construction of a residence on a lot in a subdivision which was platted prior to the effective date of the code, or which was platted pursuant to a permit issued pursuant to this code;

2.39.13 Construction of fences, outbuildings, etc. associated with an existing use (but not a nonconforming use), where permitted;

2.39.14 Normal maintenance and repair, additions, and reconstruction after loss of existing uses (but not nonconforming uses);

2.39.15 Land development activities undertaken by the United States Government or by a contractor working directly therefor on land owned by the United States Government;

(NOTE: construction of a post office, or activities on a military base, are exempt; construction of an Interstate Highway or an Urban Renewal Project, although undertaken with Federal funds, is not exempt.)

2.39.16 Home occupations.

2.39.20 Any change in the legal ownership of a site or sites, or the governmental jurisdiction over a site or sites, which may reasonably be expected to create a demand for a change as set forth in subsection 2.39.1. Such changes shall include, but not be limited to:

2.39.21 Subdivisions;

2.39.22 Creation of, or annexation to, any municipal corporation or special service district;

2.39.23 Assembly of contiguous, smaller land parcels into a resulting parcel over one-half square block in size, if in a municipality, or over twenty acres in size, if not, by a person or other legal entity, for the purpose of conducting an activity as set forth in subsection 2.39.1; but no other real property transaction.

2.39.30 The Board may exempt a proposal from the definition of a land development activity upon review and comment by the Commission, and finding by the Board that the proposed land development activity will have little or no affect on the achievement of the goals or implementation of the policies of this code, and that no public purpose would be served by requiring an impact statement and permit for the proposal. The Board shall exempt any proposal from the definition of a land development activity which is the result of a court order.

2.40 Legal Entity -- a partnership, joint venture, corporation, association, organization; the state and any agent, agency, instrumentality, or subdivision thereof; a school district, county, municipal corporation or special service district and any agent, agency, instrumentality, or subdivision thereof.

2.41 *Nonconforming Use* -- any use of a parcel of land, including but not limited to structures and human activity thereon, in existence on the effective date of this code, which does not implement one or more of the adopted policies, *or with the Zoning Map and use districts*, but which does not pose a policy constraint on any proposed land development activity on another site, or on the beneficial use and enjoyment of another site.

2.42 *Opportunity* -- the information associated with a policy which, when applied to a particular proposal on a particular site, creates a rebuttable presumption that the policy will be implemented by the proposed land development activity.

2.43 *Permit* -- a legal document issued by the Board upon approval of a proposal and finding that conditions have been satisfied, authorizing a proponent to proceed with his land development activity.

2.44 *Person* -- a natural person or a corporation.

2.45 *Policy Plan* -- an interrelated set of goals and policies adopted by the Commission on (date) and contained in Chapter 7 of this code, which guides and controls all land uses and land development activities in (jurisdiction).

2.46 *Policy Review* -- the process of reviewing the impact statement of a proposed land development activity, the comments and recommendations of the Commission, and evidence and testimony, by the Board, pursuant to adopting one or more findings for each policy pursuant to a proposal.

2.47 *Proponent* -- a person or other legal entity which sponsors and promotes a proposal, and which will be responsible for developing the land development activity, meeting all conditions, and otherwise ensuring that all policies are implemented, if a permit therefor is issued.

2.48 *Proposal* -- a statement containing various information, maps and reports as set forth in Chapter 6, for the purpose of notifying the Board, the Commission, the Citizens' Advisory Committees and the public of the proponent's intentions, and to enable the staff to render him assistance.

2.49 *Public Agency* -- the state, a municipal corporation, county, school district or special service district; and any agent, agency, instrumentality or subdivision of any of them, including but not limited to the Board and the Commission.

2.50 *Required Construction* -- any physical improvement, or feature thereof, of a proposed land development activity which must be constructed, or must be constructed according to adopted standards and criteria, in order for the proposed land development activity to implement one or more adopted policies.

2.51 Staff -- the professional employees of the Commission, but not including the interdisciplinary team.

2.52 Standard -- specifications of materials, techniques, processes, methods, size, shape, etc., which, when employed in the development of a land development activity, or in its use, will result in the implementation of one or more adopted policies.

2.53 Submission Requirement -- specifications of evidence required of a proponent which, when complied with, create a *prima facie* case for (or against) a proposal regarding the adoption of a finding.

2.54 Subdivision.

2.54.1 The division of any parcel of land into two or more parcels, separate interests, or interests in common, unless exempted under subsection 2.54.2 or subsection 2.54.3.

2.54.2 The term "subdivision" shall not apply to any division of land outside a municipality which creates parcels of land each of which comprises thirty-five or more acres of land, none of which is intended for use by multiple owners.

2.54.3 Unless the method of disposition is adopted for the purpose of evading this code, the term "subdivision" shall not apply to any division of land:

2.54.31 Which creates parcels of land outside a municipality such that the land area of each of the parcels, when divided by the number of interests in any such parcel, results in thirty-five or more acres per interest;

2.54.32 Which is created by a lien, mortgage, deed of trust or any other security instrument;

2.54.33 Which is created by a security or unit of interest in any investment trust regulated under the laws of this state or any other interest in any investment entity;

2.54.34 Which creates an interest or interests in oil, gas, minerals or water which are now or hereafter severed from the surface ownership of real property; or

2.54.35 Which is created by the acquisition of an interest in land in the name of a husband and wife in joint tenancy, or as tenants in common, and any such interest shall be deemed as only one interest.

2.55 *Use* -- the physical improvements, human activity, and effects thereof on adopted policy, located on a site or parcel of land.

2.56 *Use Posing a Policy Constraint* -- a use, whether in existence on the effective date of this code or not, which does not implement policy *or the Zoning Map and use districts*, and thus renders it more difficult, in terms of time or monetary expense, for a proposed land development activity on another site to implement one or more policies, or restricts the beneficial use and enjoyment of another use on another site.

2.57 *Variance* -- a statement accompanying a finding that a proposal implements a policy, which indicates that the proposal implements only the spirit, and not the letter, of the policy; granted by the Board after finding that the failure to implement the policy is only of insignificant proportions and the expense of time or money necessary to implement the letter of the policy would be unreasonable under the circumstances.

2.58 Zoning -- *the process of defining and adopting districts in the jurisdiction, and then defining and adopting uses in each which are irrebuttably presumed to implement all adopted policies ("uses by right"); other uses in each which are irrebuttably presumed to implement some, but not all, adopted policies and are subject to limited policy review ("special review uses"), and still other uses in each which are subject to full policy review ("prohibited uses").*

NOTE: Following are other definitions which pertain only to the examples in Chapters 7 and 8. Terms in all policies, findings, standards and criteria, submission requirements, and zoning use districts (if used) must be defined.

* *Cluster Housing* -- a housing development designed so that the houses are grouped together in one or more relatively small areas on the site, and separated from other uses and each other by relatively large areas of private yards or commonly owned space.

* *Home Occupation* -- any use conducted principally within a dwelling and carried on by the residents thereof, which use is clearly incidental and secondary to the use of the dwelling for dwelling purposes and does not change the character thereof.

* *Family* -- an individual or two or more persons related by blood or marriage; or a group of not to exceed five persons (excluding servants) living together as a single housekeeping unit in a dwelling unit.

CHAPTER 3

PERMITS REQUIRED

(Zoning Provisions)

3.10 Permits Required -- Land Development Activities. No person or other legal entity shall undertake, conduct or use, or cause to be undertaken, conducted or used, any land development activity within the jurisdiction without having first obtained and filed with the clerk of (jurisdiction) a permit for such land development activity, pursuant to this code.

3.11 Nothing in this code shall release the proponent of a land development activity from the provisions of the (jurisdiction) Building Code.

3.20 Burden of Proof -- Exceptions.

3.21 In all decisions pertaining to acceptance of proposals, findings and the sufficiency of evidence and testimony pertaining thereto, approval or denial of proposals, and any conditions attaching to an approval, and in all reports, comments and recommendations pursuant to the above, the burden shall be on the proponent to prove compliance with the provisions of this code by a preponderance of the evidence, except for the following circumstances:

3.22 In the adoption of findings by the Board pursuant to the question of approving a proposal, the Board shall consider the findings and recommendations of the Commission as rebuttable presumptions.

3.23 In the case of a public agency which is proposing a land development activity which was included in the policy plan, and planned for accordingly, following procedure shall apply:

3.23.1 Upon acceptance of the proposal, the Commission shall determine whether there is any substantial difference between the proposal and the land development activity included in the policy plan.

3.23.2 If so, the proposal shall be considered as any other proposal pursuant to the provisions of Chapters 6 and 7.

3.23.3 If not, the Commission shall forward the proposal to the Board, together with its finding that the land development activity has been included in the policy plan and is presumed to implement all adopted policies, and its comments and recommendations.

3.23.4 According to the weight of the evidence and testimony, the Board may, at its next regular meeting, adopt the finding of the Commission, with such changes or conditions as it may deem necessary or desirable, instead of the procedure set forth in sections 7.30 et seq.; and approve or conditionally approve the proposal; or it may reject the statement of the Commission and return the proposal to it for further proceedings.

3.24 If the site of the proposal is indicated as being free of a policy constraint on the adopted Constraints Map, there shall be a rebuttable presumption that the proposal implements that policy.

3.25 If the site of the proposal is indicated as being within the area of a policy opportunity on the adopted Opportunities Map, there shall be a rebuttable presumption that the proposal implements that policy; however, nothing contained herein shall alter the duty of the Board to attach conditions, as they see fit, to any finding made pursuant to this subsection.

3.30 *Opportunities Map and Constraints Map.* The Opportunities Map and the Constraints Map and other reference material attached hereto are hereby adopted and made a part hereof. The Board may, by resolution, from time to time, as policies are added or deleted or new evidence and testimony are brought forth, amend the Opportunities Map or the Constraints Map pursuant to Chapter 9.

(These subsections should replace subsections 3.24, 3.25 and 3.30 if the code is to be a Zoning Code:)

3.24 *Upon acceptance of a proposal, the Commission shall determine whether the proposed use is a use by right on the site of the proposal, pursuant to the adopted Zoning Map and use districts therein.*

3.24.1 *If not, the Commission shall proceed to the determination set forth in subsection 3.25.*

3.24.2 *If so, the Commission shall forward the proposal to the Board, together with its finding that the proposal sets forth a use by right, and is entitled to an irrebuttable presumption that it implements all adopted policies, and its comments and recommendations.*

3.24.3 *According to the weight of the evidence and testimony, the Board at its next regular meeting may adopt the finding of the Commission, with such changes or conditions as it may deem necessary or desirable, instead of the procedure set forth in sections 7.30 et seq., and approve or conditionally approve the proposal; or it may reject the finding of the Commission and return the proposal to it for further proceedings.*

3.25 *If the use is found not to be a use by right, the Commission shall determine whether the proposed use is a special review use on the site of the proposal, pursuant to the adopted Zoning Map and use districts therein.*

3.25.1 *If not, the proposal shall be subject to the provisions of Chapter 7.*

3.25.2 *If so, the Commission shall forward the proposal to the Board, together with its finding that the proposal sets forth a special review use, the policies for which it is entitled to an irrebuttable presumption of implementation, and the policies for which the proponent must develop an impact statement, and its comments and recommendations.*

3.25.3 *According to the weight of the evidence and testimony, the Board at its next regular meeting may adopt the finding of the Commission, with such changes or conditions as it may deem necessary or desirable.*

3.25.31 *If it does so, the proposal shall be returned to the Commission for further proceedings pursuant to Chapter 7, but only for those policies for which impact statements must be developed.*

3.25.32 *If it rejects the finding of the Commission, the proposal shall be returned to the Commission for full proceedings pursuant to Chapter 7.*

3.30 Zoning Map -- Use Districts; Uses by Right, Special Review Uses, Prohibited Uses. *The Zoning Map attached hereto is hereby adopted and made a part hereof. The Board may, by resolution, from time to time, as policies are added or deleted or new evidence and testimony are brought forth, amend the Zoning Map pursuant to Chapter 8.*

NOTE: following is one example of how a use district might be designated.

3.31 Single Family Residential District

3.31.1 Uses By Right. *The following are uses by right in the Single Family Residential District:*

3.31.11 *Single family residences on a preexisting lot;*

3.31.12 *Agriculture, Forestry, Conservation.*

3.31.2 Special Review Uses. *The following are special review uses in the Single Family Residential District, followed by those policies which require impact statements prior to the acceptance of a proposal:*

	Use	*Permit issued pursuant to Chapter 7 after submission of an impact statement and adoption of a finding for these policies.*
3.31.21	*Church*	*"Offstreet Parking," "Traffic Generation," "Setbacks," "Signs," "Bulk and Height Restrictions"*
3.31.22	*School*	*"Offstreet Parking," "Traffic Generation," "Adequacy of Water and Sewer Facilities," "Noise Pollution Emissions," "Setbacks"*
3.31.23	*Home Occupation*	*"Offstreet Parking," "Traffic Generation," "Adequacy of Water and Sewer Facilities," "Air," "Water," "Noise Pollution Emissions," "Signs," "Setbacks"*
3.31.24	*New Residential Subdivisions*	*All policies except "Incompatibility of Land Uses"*
3.31.25	*Etc.*	*Etc.*

NOTE: policies are designated here by title; in the adopted code they should be referred to by subsection number (see Chapter 7). Policies requiring impact statements for special review uses should be limited to those which could be of concern. "All Policies" (for new subdivisions) should include such provisions as destiny, clustering, dedication of open space, percentage of low-cost housing, street, sewer and water main specifications, hazards, conservation areas and, in general, everything contained in a good set of traditional subdivision regulations.

3.31.3 Prohibited Uses. *All uses not specifically set forth as uses by right or special review uses are prohibited in the Single Family Residential District, and subject to all the provisions of Chapter 7.*

3.32 Multi-family Residential District. *Etc.*

3.40 Areas of State Concern. The following areas are designated as Areas of State Concern, and proposals covering sites contained in them are subject to such additional policies, standards, criteria and technical review procedures as are indicated. To the extent that such policies, standards, criteria and technical review procedures cover subjects set forth in Chapter 6, and are more restrictive than those in Chapter 6, they shall supercede those in Chapter 6.

NOTE: following is one example of how an Area of State Concern might have been designated by the state's Land Use Commission (see Model State Legislation, Appendix C).

3.41 The Big Bog. (Cite applicable Land Use Commission rule.) "Pursuant to sections (pertaining to unique, fragile ecosystems and habitat of game animals or birds) of the (state statute), the Land Use Commission finds and declares that the following area, to wit: that portion of Townships ___, ___, and ___, Range _____ south of the ____ Meridian, situated in (jurisdiction), lying below the elevation of 50 feet above sea level in the drainage of the ________ ______ River, commonly known as the 'Big Bog,' is hereby declared to be an Area of State Concern for the following reason, to wit: it is a unique and fragile ecosystem to wit: a bog; and it is the habitat of game birds, to wit: ducks and geese; and that in order to implement state goals and policies, it is hereby ordered that: NO LAND DEVELOPMENT ACTIVITY SHALL BE PERMITTED therein."

NOTE: the use of the "environmental response unit" should be explored in the legal implementation, but as it has not yet been used as a legal definition, it is not herein utilized.

3.42 Mammoth Mountain. Etc.

3.50 Matters of State Concern. Proposals concerning the following shall be designated as Matters of State Concern by the Commission upon acceptance of a proposal. Thereupon, any proposal so designated shall be subject to the additional policies, standards, criteria and technical review procedures as are indicated. To the extend that such policies, standards, criteria and technical review procedures cover subjects set forth in Chapter 6, and are more restrictive than those in Chapter 6, they shall supercede those in Chapter 6.

NOTE: following is one example of how topical Matters of State Concern may have been designated by the state's Land Use Commission (see Model State Legislation).

3.51 Open Pit Mines. (Cite applicable Land Use Commission rule.) "Pursuant to sections (pertaining to open pit mines) of the (state statute), the Land Use Commission declares that, in order to implement state goals and policies, it is hereby ordered that open pit mines are subject to the following standards, criteria and technical review procedures, to wit:

(A)

(B) Etc.

3.52 Shopping Centers. Etc.

CHAPTER 4

PREAPPLICATION

4.10 General Provisions. Prior to the submission of any proposal, or undertaking, conducting, or using any land development activity, the proponent shall confer with the staff to obtain information and guidance. The purpose of such a preapplication conference is to permit the proponent and the staff to review the proposal: the site, areas of potential conformity or conflict with adopted policies and their refinements, and the process by which the proponent may proceed to seek a permit for his proposal pursuant to this code.

4.20 Topics to be Discussed. The preapplication conference shall concern, but not be limited to, discussion of the following:

4.21 The Site.

4.21.1 The location.

4.21.2 The surrounding type of development and land use.

4.21.3 The size of the site.

4.21.4 The accessibility of the site.

4.21.5 Any areas subject to natural hazards or other special conditions.

4.21.6 The existing zoning.

4.22 The Development.

4.22.1 The type of development proposed (residential, commercial, industrial or combined), land use, and the placement of existing and proposed buildings and other improvements on the site.

4.22.2 The density of the development.

4.22.3 The necessity for, quantity and location of parking areas.

4.22.4 The location, type and method of maintenance of open spaces and preservation of natural features.

4.22.5 Proposed landscaping or other treatment of the tract.

4.22.6 Proposed internal circulation system, including bicycle and pedestrian ways.

4.22.7 Area of ground coverage of roads, parking and buildings.

4.22.8 Types of water and sewage systems proposed.

4.23 Community Policy Considerations.

4.23.1 The review process set forth in this code.

4.23.2 Whether the proposal might be a matter of state concern, or in an area of state concern.

4.23.3 Likely conformity of the proposed development with the policies, criteria, and standards set forth in Chapter 6.

4.23.4 The nature of the information, technical analysis, reports and certifications which are likely to be required of the applicant.

4.30 Preapplication Conference Procedure.

4.30 (A) The preapplication conference shall be held by the applicant and the staff at a mutually agreeable time during normal working hours.

4.30 (B) The staff or the applicant may, at their discretion, notify any members of the interdisciplinary team with expertise or potential interest in factors affecting the proposal, its site, or its impact on adopted policies.

CHAPTER 5

PROPOSALS

5.10 Proposal -- Submission Requirements. The proposal shall consist of eight clear copies of the completed application form, maps and report described in the following sections, plus a fee in the proper amount.

5.20 Application Form. The application form shall provide for the following information:

5.21 Name, address, phone number of proponent (if proponent is a legal entity other than a natural person, principal officers or partners shall be similarly identified, as well as the person acting as agent for the proponent).

5.22 Name, address and phone number of designers or engineers of the proposed land development activity, if different from proponent.

5.23 Legal ownership of site (including easements, covenants, leasehold interests, remainder interests, security interests, and the like).

5.24 Present land use of site.

5.25 Present Zoning of Site

5.26 Detailed description of proposed development to, and subsequent use of, the site.

5.27 Permission requested: rezoning (to what density and use); subdivision plat; planned unit development; special use; conditional use.

NOTE: provisions in italics are to be used only in the zoning-subdivision-P.U.D. ordinance. They are not necessary in the "permit system" ordinance.

5.28 Date and signature of proponent, or agent of proponent.

5.30 Information Map. The information map shall be drawn at a scale of one inch to two hundred feet, shall contain the information required in subsections 5.21 and 5.22, and shall indicate the location and type of all opportunities and constraints to development on the site and for one quarter mile surrounding it shown on the adopted opportunities and constraints maps. The dimensions of each and every map submitted shall be twenty-four (24) inches by thirty-six (36) inches. In the case of multiple sheets, a key map showing the relationship of the individual sheets shall be provided on each sheet.

5.40 Site Plan. The site plan shall be drawn at an appropriate scale, not less than one inch to one hundred feet, shall contain the information required in subsections 5.21 and 5.22, and shall indicate the location of all existing improvements, the type and location of all features for which policy has been adopted, all opportunities and constraints to development shown on the adopted opportunities and constraints maps, and the location and type of all improvements proposed to be demolished or constructed on the site.

5.50 Report. The report shall contain a brief discussion of the method to be undertaken to implement each policy, including, where possible, disclosure of the specific finding which the proposal will meet to implement a policy. Particular attention should be paid to those policies which are indicated as constraints to development of the site. No representation in the report is legally binding at any later stage in the proceedings under this code, but the proponent must affirm, in it, that it represents the best information at his disposal at the time of submission, and that representations are made in good faith.

5.60 Fee Computation.

NOTE: no fee schedule is suggested. Fees should be set at a rate which will cover the costs of review of the proposal by the interdisciplinary team, staff, Commission and Board.

5.70 Action Procedure -- Staff.

5.71 The proposal shall be submitted to the staff during normal working hours.

5.72 The staff shall immediately stamp the date of its receipt of the proposal on the application form.

5.73 The staff shall, within 30 days of the date of receipt:

5.73.1 Review the proposal for conformity with the proposal submission requirements. If the proposal is not in conformity with those requirements, the staff shall return it to the proponent with a written statement of the deficiencies of it.

5.73.2 If the proposal is found to be in conformance with the proposal submission requirements, the staff shall:

5.73.21 Review the proposal with regard to the adopted policies and opportunities and constraints maps to identify potential compatibility or conflict with policies which should receive particular consideration in the impact statement.

5.73.22 Make a written report to the Commission including:

5.73.22 (A) Certification of compliance of the proposal with the proposal submission requirements.

5.73.22 (B) A statement of the staff's evaluation of the proposal against the policies.

5.73.22 (C) Notation of any special information, reports or certifications which should be included with the impact statement.

5.73.22 (D) Certification that the site map and information map adequately reflect the information on the adopted opportunities and constraints map.

5.73.22 (E) Indication of how the proponent should provide for public use areas within the proposal. Any dedication of land or the contribution of funds in lieu of land dedication shall be indicated so that the proponent may conform to that policy.

5.73.22 (F) (If applicable) an estimate of the cost of those studies and services rendered by the (jurisdiction) in consideration of the proposal.

5.73.23 Arrange for publication of notice of filing the proposal in the official paper and posting notice thereof on the site.

5.73.24 Transmit three copies of the proposal and its report to the Commission.

5.80 Action Procedure -- Commission. Upon receipt of the proposal and staff report thereon, the Commission shall, at its next regular meeting, review the same. It shall make such changes in the staff report as it deems advisable and after such changes, adopt the staff report as its own, and accept the proposal. Within three days, the Commission shall transmit one copy of its report to the proponent, a copy of the proposal and its report to the Board, and shall file a copy of the proposal and its report in its office for availability to the interdisciplinary team, staff and public.

5.90 Appeal -- Report Requirements. Any person, aggrieved by the Commission's report or any requirement thereof, may request that it be reviewed and changed at the next meeting of the Board. Upon good cause shown, the Board may change the report at such meeting.

CHAPTER 6

POLICY REVIEW PROCEDURES

NOTE: The policy on "Compatibility with Agricultural Land and Operations" will be used to indicate how the impact statement for each policy should be developed.

6.10 General Application. The Board shall find that a proposal implements each policy before a permit is issued. Unless otherwise noted, one, but only one, finding by the Board need be adopted to indicate the implementation of the policy. The proponent shall submit an impact statement for each policy, indicating on each which finding he wishes the Commission and the Board to adopt, and attaching thereto all submission requirements necessary for the Commission or Board to adopt such finding. All impact statements shall be submitted, together, within six months of acceptance of the proposal.

6.11 Revised Proposals. Proposals may be revised after they are accepted to reflect changes necessary to implement a policy or policies. Any such changes shall be noted on the revised proposal.

6.20 Compatibility with Agricultural Lands and Operations. It is the goal of the county to preserve the economic viability of agricultural lands and operations within the county to ensure that large tracts of land now committed to or capable of agricultural uses shall not be irrevocably committed to high intensity development.

6.21 Agricultural Lands Policies. To meet the goal, it is the policy of the county to:

6.21.1 Ensure that development surrounding agricultural lands or near such lands shall not make continued agricultural operations impractical or economically infeasible by reasons of divisions of agricultural land into parcels of unworkable sizes, shapes, or composition (e.g., loss of grazing land associated with meadows).

6.21.2 Avoid development or development patterns that will require or result in expenditures by or necessitate higher taxes or special assessments on agricultural lands or uses.

6.21.3 Avoid development of development patterns that will require water to be taken out of agricultural uses.

6.21.4 Encourage the preservation of agricultural lands and uses within the undeveloped portions of proposed or approved development sites wherever possible.

6.21.5 Protect agricultural operations from disruptions associated with neighboring non-agricultural development.

6.22 Standards and Review Procedures. The Planning Commission shall not recommend for approval and the Board shall not approve any development proposal unless the Commission or the Board finds:

6.22.1 That the proposed development or development pattern does not require the division of agricultural lands into parcels of a size, shape, or composition which would result in a significant loss of lands capable of food production, feed production, irrigated or subirrigated pasture, or dry pasture and rangeland.

6.22.2 That the proposed development or development pattern will not result in the imposition of significant taxes or special assessment levies on agricultural uses or lands.

6.22.3 That the proposed development will not require significant changes in agricultural water uses.

6.22.4 That the proposed development preserves agricultural uses and lands wherever possible.

6.22.5 That the proposed development will:

6.22.51 Provide access to and from the development that will minimize interference with stock movement or other agricultural operations.

6.22.52 Not result in damage or obstruction of irrigation headgates and ditches.

6.22.53 Not result in damage to crops and livestock by dogs.

6.22.54 Not result in trespass by persons, vehicles or animals without the permission (consent) of the owner.

6.23 Evidence. The applicant shall submit adequate evidence that the proposed development uses are compatible with agricultural lands and operations. Such evidence may include:

6.23.1 Staff certification of conformance with applicable standards and reference materials.

6.23.2 A statement from the ______________________ Soil Conservation District or the Soil Conservation Service based on review of the development proposal and concerning the productivity of lands to be preserved.

6.23.3 A report on agricultural productivity.

NOTE: seventy-nine policies -- more than any community would need -- could be contained in section 6.21 - 6.99.

7.10 Impact Statement -- Staff Action.

7.11 The proponent or his agent shall submit eight copies of all the impact statements for the proposal together, within six months of the Commission's acceptance of the proposal, to the staff during normal working hours.

7.12 The staff shall:

7.12.1 Immediately stamp the date of its receipt of the impact statements on the cover sheet therefor.

7.12.2 The staff shall then review each impact statement for conformity with the applicable submission requirements for each policy within ten days of receipt. If an impact statement is not inconformity with those requirements, the staff shall return it to the proponent with a written statement of its deficiencies.

7.12.3 If each impact statement is found to be in conformance with the applicable submission requirements -- for a finding for each policy, the staff shall indicate that all of them together comprise the "impact statement" for the proposal, and:

7.12.31 Distribute copies of the impact statement to the Commission and relevant Citizens' Advisory Committees, and make available to the public, for review and comment, suggestions and recommendations.

7.12.32 Coordinate review and comment by the public for review by the Commission, the Citizens' Advisory Committees, and the Board.

7.12.33 Review the impact statement with regard to adopted policies, the indicated finding requested pursuant to each, and standards, criteria and technical review procedures.

7.12.34 Within 60 days of its certification of the impact statement, make a written report including:

7.12.34 (A) Certification of compliance of the impact statement with all the requirements for impact statements.

7.12.34 (B) A statement of the staff's evaluation of the proposal's conformity with a finding pursuant to each of the adopted policies.

7.12.34 (C) Recommendations concerning the specification by the Board of any further information, technical analyses, reports or certifications to be included before final consideration of the proposal in addition to the impact statement.

7.12.34 (D) Review and recommendations concerning improvements to be guaranteed by the applicant and the types of guarantees proposed.

7.12.34 (E) The report shall include, verbatim, the comments and recommendations of the interdisciplinary team and any Citizens' Advisory Committee.

7.20 Proposal and Impact Statement -- Commission Action. The Commission shall consider the proposal, the impact statement, the reports by the staff, interdisciplinary team, and Citizens' Advisory Committees, and such further evidence and testimony as may be offered at a meeting within 30 days of receipt of the staff report, and at such subsequent meetings as may be necessary or desirable. Within 60 days of receipt of the staff report, the Commission shall recommend to the Board that it approve, disapprove, or conditionally approve (stating the conditions) the proposal, and its reasons therefor; and transmit its recommendation to the proponent, to the Board, to any Citizens' Advisory Committee which offered evidence, testimony or comment on the proposal, and to the public. The Commission shall only recommend that the Board approve the proposal after adopting a finding pursuant to each policy, and shall only recommend conditional approval after finding that the conditions recommended would, if adopted, permit the adoption of a finding.

7.30 Proposal and Impact Statement -- Board Action.

7.31 Upon receipt of the recommendations of the Commission, the Board shall give at least fifteen days' public notice of a hearing on the proposal and hold such hearing or hearings as may be necessary to afford the public the opportunity to offer evidence and testimony.

7.32 Thereupon, at a meeting held within sixty days of the first public hearing, the Board shall consider all the evidence and testimony, the proposal and impact statement, the report of the planning staff and the recommendations of the Commission, and shall pass upon the proposal.

7.33 The procedure for passing upon the proposal shall be as follows: the chairman shall read the title of each policy and ask for a motion. The motion shall be to adopt a finding pursuant to the policy, and containing the essential terms of any conditions, including but not limited to conveyances of property, schedule of completion, covenants to attach to the property, bond or other surety agreements, or other guarantees which qualify or modify the finding. Only members of the Board may discuss the motion. If the motion should fail, the chairman shall ask for another on that policy. If no finding is adopted pursuant to a policy, or if a finding is adopted to the effect that the proposal fails to complement a policy, the chairman shall declare that the proposal fails to implement the policy and that the proposal will be rejected. Nevertheless, each policy shall be considered in this fashion.

7.34 If a finding has been adopted for each policy, the chairman shall announce that the proposal has been approved, and shall state the terms of any conditions which were attached to each finding and thus to the approval of the proposal. If findings indicating that a policy is not implemented or no finding has been made for a policy, the chairman shall announce that the proposal has been rejected and state which policies the proposal fails to implement.

7.40 *Rehearing -- Proposal.* The proponent shall have thirty days to request a rehearing and submit to the staff revised impact statements for each policy which the proposal fails to implement. The procedures of this Chapter shall apply to rehearings, except that the only consideration in the actions of the staff, interdisciplinary team, Citizens' Advisory Committees, public, Commission and Board shall be those policies which the proposal failed to implement, and the effect of the revised proposed finding and method of implementing the policy on the other policies.

7.50 *Rehearing -- Conditions.* Within ten days of the approval of a proposal, the proponent may request a hearing of the Board to reconsider conditions placed upon the acceptance, and the Board shall hold such hearing, upon adequate notice, within thirty days of such request. At such hearing, the burden shall be on the proponent to indicate that the policy or policies will be implemented by the proposed new conditions, or proposed lack thereof.

7.60 *Satisfaction of Conditions.* Within thirty days of the approval of the proposal or rehearing pursuant to section 7.50, whichever is later, the proponent shall submit to the Board such evidence as may be necessary to indicate that the proposal meets all of the conditions imposed upon it. The staff and (jurisdiction) legal staff shall, within thirty days, review the evidence and submit their comments and recommendations to the Board. At the next regular meeting after receipt of the staff reports, the Board shall determine whether the proposal meets all of the conditions imposed upon it and, if so, issue a permit for the proposal. The permit shall be transmitted to the proponent and the Commission.

7.70 *Permit -- Filing and Recording.* No permit shall be valid until filed and recorded on the property in the records of the (jurisdictional clerk). It is the responsibility of the proponent to accomplish this.

CHAPTER 8

MISCELLANEOUS PROVISIONS

8.10 Nonconforming Uses. Nonconforming uses shall be permitted to continue until discontinued for a continuous period of two months; substantially destroyed by fire, act of God, or demolition; or until such time as they may have their Certificates of Occupancy revoked pursuant to the Building Code, whichever occurs sooner. Ordinary repairs and maintenance of nonconforming uses shall be permitted. A nonconforming use shall not be changed except by the provisions of this code.

NOTE: This is an important provision, since most single family housing and platted but undeveloped residential subdivisions (to name only two examples) probably would not comply with "common open space" and "cluster housing" policies, if the community has adopted them, but yet do not pose a policy constraint on the beneficial use and enjoyment of another site.

8.20 Uses posing a policy constraint. A use posing a policy constraint shall be subject to the following procedure:

8.21 Any one of the following may complain to the Board:

8.21.1 The Commission.

8.21.2 Any proponent of a land development activity whose proposal was denied by the Board because the proposal could not implement a policy because it was located in a policy constraint area, and the constraint is substantially caused by the defendant.

8.21.3 At least fifty percent of the people who reside or work in a policy constraint area, and the constraint is substantially caused by the defendant.

8.21.4 Any Citizens' Advisory Committee, the jurisdiction of which lies wholly or in substantial part in a policy constraint zone, and the constraint is substantially caused by the defendant.

8.22 The complaint shall allege:

8.22.1 The name(s) of the complainant(s), and their standing.

8.22.2 The name(s) of the defendant(s).

8.22.3 The policy or policies violated by the defendant(s).

8.23 Within twenty days, the defendant(s) may answer the complaint as follows:

8.23.1 Admission of the facts in the complaint.

8.23.2 Denial of the facts, or any of them in the complaint.

8.23.3 Demurrer of the facts in the complaint, and allegation that the defendant has made use of, or intends to make use of, the best available technology to mitigate or eliminate the policy constraint. The best available technology shall include but not be limited to the standards and criteria and submission requirements sufficient to adopt a finding pursuant to the applicable policy as set forth in Chapter 7.

8.24 Within thirty days of receipt of the defendant(s)' answer, and after adequate public notice, the Board shall hold a hearing on the complaint. At such hearing the Board shall accept such evidence and testimony as may be relevant, and shall find for the complainant(s) or defendant(s), and may make such orders as are necessary and proper to implement their finding, as follows:

8.24.1 Alteration of the policy constraint areas on the Constraints Map.

8.24.2 Order the defendant to develop and present, within a reasonable time, his plan for implementing the policy; or

8.24.3 If it appears technologically or physically impossible for the defendant to implement the policy, order him to present, within a reasonable time, his plan for employing the best available technology.

8.24.4 Such conditions as may be necessary or desirable to ensure compliance with the finding or other orders.

8.25 In all such proceedings, the burden shall be upon the complainant to show that the defendant is the substantial cause of the relevant policy constraint; but thereafter the burden shall be upon the defendant to show that the complainant(s) do not have standing, that the relevant policy is being implemented, or that the best available technology is being or will be employed.

8.26 Upon presentation of the defendant(s)' plan and adequate public notice, the Board shall hold a hearing, accept such evidence and testimony as may be relevant, and find that either:

8.26.1 The plan, if implemented, would implement the relevant policy or policies.

8.26.2 The plan, if implemented, would represent the employment of the best available technology.

8.26.3 The plan is unacceptable.

8.26.4 If finding 8.26.1 or 8.26.2 is adopted, the Board shall issue its order to the defendant to implement the plan, with such conditions as it may deem necessary or desirable to ensure its implementation.

8.26.5 If finding 8.26.3 is adopted, the Board shall issue its order to the defendant to develop and present another plan and may, if it deems necessary or desirable, apply to the (court) for equitable relief pursuant to section 1.40.

8.30 Variances. A proponent may request a variance from a policy in his impact statement. The Commission in recommending such requests, and the Board in granting them, shall first find that a variance is necessary or desirable, then adopt the finding on the policy, noting that a variance has been granted.

8.40 Conditions on Findings. The Board may place conditions upon its findings made pursuant to Chapter 7 or sections 8.20 et seq. which it deems necessary and proper to ensure that the policy will be implemented. Upon approval of the proposal and issuance of the permit, the conditions placed on any finding shall become conditions on the permit.

8.41 Development Schedule. The conditions may place a reasonable time limit on the construction activity associated with the proposed land development activity, or any portion thereof, to prevent speculation in permits or to implement other policies.

8.42 Use -- Covenants. The conditions may restrict the future use of the proposed land development activity to that indicated in the proposal, and if the land development activity is intended for resale and further construction,

(NOTE: such as a subdivision where vacant lots are sold for others to build upon)

the Board may require covenants to be attached to the deed limiting the use to that indicated in the proposal.

8.43 Conveyances -- Homeowners' Association. The conditions may require that if a homeowners' association is required to hold and maintain common property that it be legally created prior to issuance of a permit, and that any required conveyances to the (jurisdiction) or the homeowners' association be effected prior to the issuance of a permit.

8.44 Construction Guarantees. The conditions may require the posting of a bond, other surety or collateral, or an improvements agreement, to ensure that all construction features required to implement a policy are in fact constructed to the applicable standards and criteria.

(NOTE: such as screening, soundproofing or setback to implement a "Noise Emissions" policy.)

8.44.1 Contents of Guarantees. Such guarantees shall specify the period within which the proponent shall complete all construction work required by the finding and shall provide that if he shall fail to complete such work within such period the (jurisdiction) may complete the same and recover the full cost and expense thereof from the proponent and may employ the bond, other surety or collateral for such purpose. The guarantee shall provide for reimbursement of the (jurisdiction) Engineer or his representative. The guarantee may also provide for the required construction to be completed in units or phases and for the termination and return of a portion of the guarantee upon the successful completion of such units or phases.

The guarantee may also provide for extentions of time to complete the required construction, or any unit or phase thereof, for good cause shown.

8.44.2 Release of Guarantees. From time to time as the required construction in a unit or phase of the land development activity is completed, the proponent may apply in writing to the Board for a partial or full release of the guarantee. Upon receipt of such application, the (jurisdiction) Engineer shall inspect that unit or phase of the required construction which has been completed. If the Board determines from such inspection that the construction thus far completed has been successfully completed according to the applicable standards and criteria and terms of the condition, that portion of the guarantee covering that unit or phase shall be released.

If the Board determines that any of the required construction is not constructed according to the applicable standards and criteria and terms of the condition, it shall furnish the proponent a list of specific deficiencies and shall be entitled to withhold a portion of the guarantee sufficient to ensure such successful completion. If the Board determines that the proponent will not construct any or all of the required construction according to the applicable standards and criteria and the terms of the condition, the Board may withdraw and employ from the guarantee such funds as may be necessary to complete the required construction according to the applicable standards and criteria and terms of the condition. Where the guarantee is insufficient to complete the required construction according to the applicable standards and criteria and terms of the condition, the Board may elect to do so and recover all costs in excess of the collateral from the proponent.

8.45 Commitment Letter. The conditions may require a letter from a utility company, municipality, special service district, county, or other public agency confirming that services to the proposed land development activity can and will be provided.

8.50 Appeals. Any aggrieved person or other legal entity, any aggrieved Citizens' Advisory Committee, any aggrieved proponent, or the Commission, may appeal any finding of the Board to (the Court of General Jurisdiction) pursuant to (state statute) within thirty days of such finding.

8.51 If the (court) determines that a Citizens' Advisory Committee has standing to appeal, or twenty days after a Citizens' Advisory Committee files an appeal, whichever is sooner, the Commission shall make available to the Citizens' Advisory Committee at no charge to it such technical and legal assistance as it may reasonably require to conduct its appeal.

Legal and technical assistance shall consist, at a minimum, of one lawyer and one staff planner not assigned to any other aspect of the relevant appeal.

8.60 Amendment. This code may be amended pursuant to the following procedures:

NOTE: Section 8.61 sets forth an amendment procedure for any section of the code. If it is used to amend goals and policies, the result will be an "evolution" of policy over the years as the concerns and goals of the community change. Section 8.62 sets forth an optional *process for making amendments to goals and policies which, in essence, mandates the community to* redo the entire planning process *set forth in the Policy Planning section before and during the election for members of the Regional Planning Commission. The thought is that the goals and policies (but not necessarily the findings, standards, criteria and submission requirements adopted pursuant to them) should remain constant for the term of office of the members of the Regional Planning Commission, that new goals and a new community inventory and analysis would permit the development of another* integrated, coordinated *set of policies to be adopted together as a new policy plan. The alternative futures would be developed by September of the election year, so they would become the subject of political debate among the candidates, while the new policy plan would be adopted in December or January by the successful candidates.*

8.61 Amendments to all sections but those setting forth goals or policies.

8.61.1 An amendment may be proposed by any member of the Board, by the Commission or by any Citizens' Advisory Committee and presented at a regular meeting of the Board.

8.61.2 The Board shall refer the proposed amendment to each Citizens' Advisory Committee and to the Commission, which in turn shall refer it to the planning staff and the interdisciplinary team. The comments and recommendations of each shall be transmitted to the Board within thirty days of receipt.

8.61.3 After adequate public notice, the Board shall conduct a hearing on the proposed amendment to consider the evidence and testimony, and the comments and recommendations of the agencies and groups to whom it has been referred. Thereupon, at its next regular meeting (if the hearing is held in conjunction with a meeting, at that meeting) the Board shall make such changes in the amendment as it may deem necessary or desirable.

8.61.4 If no changes are made, the Board shall proceed to adopt or reject the proposed amendment.

8.61.5 If changes are made, the Board shall submit the proposed amendment as changed to the processes set forth in subsections 8.61.2 through 8.61.4.

8.62 Amendments to sections setting forth goals or policies. No proposed amendments to sections setting forth goals or policies shall be considered, except pursuant to this process:

8.62.1 (At appropriate intervals, such as every four years) the Commission shall adopt any necessary changes in the neighborhood jurisdictions and ensure that a Citizens' Advisory Committee is formed and operational in each neighborhood. The Citizens' Advisory Committee shall report their concerns and goals for the community to the Commission on or before August 1 of that year.

8.62.2 During the same period, the interdisciplinary team shall conduct a community inventory and analysis and report thereon to the Commission on or before August 1 of that year.

NOTE: this provision is for the purpose of obtaining a monitoring and updating of the Environmental Resources Inventory and Analysis.

8.62.3 The planning staff shall develop alternative sets of policies, each set being suitable for adoption as a policy plan and each charting a different future course and direction for the (jurisdiction), based on the concerns and goals, and the interdisciplinary team shall analyze each, noting its comments and recommendations, and the alternative sets of policies and the analysis of the interdisciplinary team shall be made public on or before September 15 of that year.

8.62.4 The Commission shall consider the alternative sets of policies and move to adopt one as the policy plan at its first meeting in January of the following year. Thereupon, the Commission shall make known its decision and the policies to each Citizens' Advisory Committee and each Board.

(NOTE: This code anticipates that there will be several local government jurisdictions within the jurisdiction of a Regional Planning Commission.)

The comments and recommendations of each shall be transmitted to the Commission within thirty days of receipt, and the staff and interdisciplinary team shall report to the Commission the effects of implementing any recommended changes.

8.62.5 After adequate public notice, the Commission shall conduct a hearing on the proposed policy plan to consider the evidence and testimony, the comments and recommendations of the agencies and groups to whom it has been referred, and the staff report. Thereupon, at its next regular meeting, the Commission shall make any changes to the proposed policy plan deemed necessary or desirable, and proceed to adopt or reject the proposed policy plan.

8.62.6 After a policy plan has been adopted by the Commission, the staff and the interdisciplinary team shall develop findings, standards and criteria, and submission requirements for each policy therein, and report thereon to the Commission. The process for adoption of findings, standards and criteria, and submission requirements shall be the same as that for the adoption of the policy plan.

8.62.7 After the Commission has adopted the policy plan and all relevant findings, standards and criteria, and submission requirements, the Board, at its next regular meeting shall delete all old provisions and insert the the new ones in this code.

8.63 Effect of Amendment on Pending Proposals. Proposals approved before the adoption of a new policy plan *by the Commission* pursuant to section 8.62.5 or before the adoption of any amendment to this code pursuant to sections 8.61 et seq. shall be issued permits. Proposals pending at those times, whether accepted or not, shall be subject to the new policy plan or amendment; provided, however, that during the time between the adoption of a new policy plan by the Commission, and the insertion of it and all applicable findings, standards and criteria, and submission requirements into this code by the Board, any and all time limits on development and presentation of proposals and impact statements shall be suspended.

8.70 Safety Clause. This code is necessary to promote and protect the health, safety and welfare of the citizens of (jurisdiction).

APPENDIX C

MODEL LAND USE CODE SUGGESTED FOR STATE GOVERNMENTS

1. Introduction.

This model legislation is designed to be a discrete article in the state statutes, replacing the enabling legislation for planning, zoning and subdivision regulation by cities and counties. It establishes a new jurisdiction for land use decision making -- the "region" -- which corresponds to the boundaries of regional councils of government in the states, and hopefully represents an area of social, economic, and environmental interrelationships. It establishes a new body for land use decision making -- the "regional planning commission." For this reason, any bill drafted in reliance on this model must begin with a clause repealing the enabling legislation for local government planning, zoning, and subdivision regulation.

Although localities no longer would be performing the comprehensive planning function, they should continue to be enabled to plan for the provision of the multiplicity of public services which they will continue to provide.

Every state has a different system for organizing and enumerating its statutes, although most states have a three-tiered enumeration system that breaks down by broad topic, specific subject, and then specific provision. In Colorado, the breakdowns are called respectively "chapters," "articles," and "sections." Major groupings of sections in a comprehensive article are called "parts," and are delineated by the first digit of a three-digit section number. This system of enumeration has been used in this model, with the chapter number omitted and the article number represented by "X". The drafting of a bill would, of course, follow the statutory enumeration system of the state in question.

2. Model Legislation

PART I. GENERAL PROVISIONS

X-101 Title. This act is entitled, and may be referred to as, the "(name of state) Land Use Planning and Control Act of (year)."

X-102 Legislative Declaration. It is the intention of the (state legislature) to secure the implementation and effectualization of the goals, objectives, and policies set forth in this article. It is also the intent to both enable and ensure the development and implementation of goals, objectives, and policies, consistent with the goals, objectives, and policies contained in this article, by the people of the various regions of the state, to the end that such further development of the land and natural resources of the state, and the provision of public services, conforms to the wishes of the people of the state.

It is the intent of the (state legislature) to ensure that, henceforth, the sociocultural, economic, environmental, and public facilities impacts resulting from natural resources or land development be made known, that such impacts conform with public policy, as a condition of undertaking development. The (state legislature) finds that these impacts have occurred, and in the future will likely occur, without regard to the jurisdictional boundaries of local government. It further finds that the most direct impacts and effects of development activity are likely to occur in the neighborhood of the location of the development activity, and further that the impact of some major development activities may affect all the people of the state.

It is the intention of the (state legislature) to aid and assist the people of the various regions of the state in the development and implementation of public policy relating to the development of land and natural resources, and in the implementation of those policies.

The (state legislature) hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

X-103 Definitions. (1) As used in this article, the following words have the following meanings: *(to be completed in the development of the legislation)*.

PART II. GOALS, OBJECTIVES, AND POLICIES

X 201 Function, Interpretation, and Amendment. (1) The following goals, objectives, and policies, which are of statewide concern and affected with a public interest, will be used in all state, regional and local government decision making, in the continuous state and regional planning programs, and shall be used by the land use commission and the regional planning commissions in administering this article.

(2) The goals, policies, and objectives shall be interpreted liberally, and in a way which avoids conflicts between policies. In cases of conflict, due consideration shall be given to public testimony, except that in no case shall goals, objectives, and policies relating to hazards to life or property, or housing for the poor and the elderly, be violated.

(3) Goals, objectives, and policies may be amended, deleted, or added from time to time by action of the (state legislature), but at all times there shall be objectives and policies governing each and every topic set forth in sections X-203 through X-207 inclusive.

X-202 Goals.

(1) To fulfill the responsibility of each generation as trustee of the environment for succeeding generations;

(2) To assure for all Americans a safe, healthy, and productive environment and aesthetically and culturally pleasing surroundings;

(3) To attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences;

(4) To preserve important historic, cultural, natural aspects of our national heritage and maintain wherever possible an environment which supports diversity and variety of individual choice;

(5) To achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities;

(6) To enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

These goals are taken directly from the National Environmental Policy Act of 1969, and govern all Federal agency decisions. They are recommended, as a minimum, in any state legislation.

X-203 Objectives and Policies Relating to the Natural Environment. *(Examples)*

(1) Prevention of loss of life and property due to natural hazards;

(2) Elimination of air, water, and noise pollution: elimination of discharge of pollutants into the waters of the state before 1985, establishment of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the waters of the state by 1983, elimination of the discharge of toxic pollutants in the air by (year), prohibition of new indirect sources of

air pollution, achievement of ambient air quality standards sufficient to protect the public health by 1975, and achievement of ambient air quality levels sufficient to protect the public welfare by (year);

(3) Preservation and enhancement of the scenic qualities of the state and scenic vistas from the public roadways, elimination of billboards and flashing or revolving signs by (year), elimination of lighted signs larger than 4 ft. by 6 ft. by (year);

(4) Preservation of the recharge capacity of underground aquifers and adequate provision for runoff, minimization and prevention where possible of soil erosion caused by construction or development;

(5) Protection of significant archeological sites;

(6) Preservation of unique or fragile ecosystems, preservation of ecosystems necessary to support regionally or nationally unique or endangered species, game species, and species of economic value, protection, to the extent possible, of the balance of nature in construction, extraction, and development activities;

(7) Preservation and protection of wetlands, water bodies, water courses, and of terrain and natural features necessarily related to wetlands, water bodies and water courses;

(8) Etc.

X-204 Objectives and Policies Relating to the Man-Made Environment, Culture, the Society, and the Economy.

(1) Conservation and enhancement of buildings and sites of historical and cultural value;

(2) Reversal of the trends toward physical, social, economic, and cultural stagnation and decay in rural areas and inner cities;

(3) Provision of physically adequate housing for all residents of the state by (year), elimination of low and moderate cost housing shortages, elimination, to the extent possible, of residential patterns which are segregated by race;

(4) Elimination, to the extent possible, of unemployment and underemployment, preservation and enhancement of a healthy economy, and stimulation of economic development to resolve current socioeconomic dislocations and prevent anticipated future socioeconomic dislocations;

(5) Etc.

X-205 Objectives and Policies Relating to Growth Configuration and Dynamics, Socioeconomic Stagnation, Transfer of Growth Pressure, Urban Sprawl, and New Communities.

(1) Elimination of further urban sprawl development and strip development, whether commercial or otherwise, along the approaches to towns and cities, along mountain valleys, shorelines, and highways, and elimination of development which tends to fill in the land between existing communities;

(2) Preservation of open space between existing communities;

(3) Separation of incompatible land uses;

(4) Transfer, to the extent possible, of growth pressure from such regions as may wish to moderate the rate or amount of future growth, to such regions as may wish to stimulate growth, and within regions from the fringes of urban areas to new or existing modal centers, as may be designated in the regional plans and designed to accommodate such growth;

(5) Etc.

X-206 Objectives and Policies Relating to Development, Conservation, and Use of Renewable and Non-Renewable Natural Resources, Recreation Resources, and Agriculture and Forestry.

(1) Design and location of new development in such a way as to encourage and accommodate non-automobile transportation modes;

(2) Elimination, to the extent possible, of congestion on the public highways;

(3) Development of recreation resources which does not deplete those resources for future use and enjoyment;

(4) Preservation of prime agricultural lands and important agricultural areas;

(5) Development and extraction of renewable resources on a sustained yield and multiple use basis;

(6) Restoration, to the extent possible, or reclamation, of sites used for mining, quarrying, or strip mining;

(7) Prevention, to the extent possible, of the erosion of topsoil through wind or water;

(8) Etc.

X-207 Objectives and Policies Relating to Provision of Utilities and Public Services, and Taxes Relating Thereto.

(1) All extraction and development activity after the effective date of this article, except those types designated pursuant to subsection (2) of this section, or the future occupants, users, purchasers, or beneficiaries thereof, shall be directly responsible for all one-time and continuing incremental public and quasi-public costs associated with the development activity, its subsequent occupation and use, and eventual abandonment, to the end that the taxpayers of the region, or any particular jurisdiction in it, shall not subsidize development activities.

(2) Regional policies and plans may designate types of development activities and particular development areas, including but not limited to such topics as low-income housing, urban renewal areas, regional growth centers, recreation or cultural facilities open to the public, development of non-automobile transportation facilities, which, because of overriding public policy in the region, may be subsidized by the taxpayers of the region or any jurisdiction within it, provided, however, that prior to the issuance of a permit for any development activity which is to be subsidized, the amount and type of such subsidy shall be publicized;

(3) Satisfactory and timely completion to regional standards and criteria of any portion of a development activity which is intended to be dedicated to a public agency shall be bonded or otherwise secured;

(4) The configuration of new development shall reinforce the efficient provision of utilities and public services to the future occupants and users thereof and shall minimize the congestion of highways and other transportation facilities, schools, recreational and cultural facilities, and other public and quasi-public facilities, and regional commissions may require the dedication of a reasonable amount of land, or cash in lieu thereof, from development activities, as such may be necessary to implement this subsection, provided that no land development activities shall be required to dedicate land or cash for public facilities in excess of those required to service the land development and its subsequent users and occupants;

(5) Regional plans shall be coordinated and compatible with the plans of neighboring regions;

(6) The plans and decisions of agencies of the state government shall, to the maximum extent feasible, reinforce the regional plans;

(7) Etc.

This list of policies is as complete as it can be for nonspecific model legislation. They are broad (state)-level policies suitable for inclusion in state legislation, and set forth a minimum level of public responsibility for land use decisions.

Legislators in the various states will undoubtedly find that some of these policies, at least insofar as the way they have been worded, are irrelevant or inappropriate for their situation. Likewise, every state has special conditions which must be included in the state policies in order to be minimally responsible to their voters and taxpayers. For instance, in 1973 the combined bipartisan leadership of both houses of the Colorado General Assembly introduced a comprehensive land use control bill which included goals and policies similar to the above. They specifically enumerated the rapidly sprawling urbanized area along the Front Range of the Rocky Mountains as an area where the amount and rate of growth is to be moderated. Modification of the recommended policies, and inclusion of others of specific concern to the state, should receive careful attention by the relevant legislative committees and the public, because of the important position the wording and language plays in the future development and growth of the state.

Many of the recommended policies appear to be simple or obvious. They have been included because their articulation is necessary if they are to be included in the process of making land use decisions.

PART III. LAND USE COMMISSION

X-301 Commission Created: Membership, Compensation, Removal from Office.

(1) There is hereby created in the office of the Governor a commission, to be known as the "Land Use Commission," to consist of nine members appointed by the governor with the advice and consent of the Senate. Members shall be qualified voters in the state over the age of 25 years.

(2) Members shall be appointed for a term of three years, except that, in the case of those initially appointed, three shall be appointed for terms of one year, three shall be appointed for terms of two years, and three shall be appointed for terms of three years. Members may be removed by action of the Governor for incapacity or nonfeasance, or for malfeasance, but in the case of malfeasance the consent of the Senate shall be required. Any vacancy occurring during the term of office of a member shall be filled by appointment by the Governor of a qualified person for the unexpired portion of the regular term.

(3) Each member of the Commission shall receive a per diem of $150 per day for each day devoted to the performance of his or her duties, but not to exceed $35,000 per year, and shall be reimbursed for all actual and necessary expenses incurred in the performance of such duties.

No regional, political, or social viewpoint qualifications are set forth for the members of the Commission, and no provision is made for existing state officials with relevant expertise to serve ex officio on the Commission. The state of Florida has opted for the latter, establishing *the Governor's cabinet as the land use overview agency. The other types of criteria (so many representing this portion of the state and so many representing that, so many Democrats and so many Republicans, so many minorities, environmentalists, land developers, etc.) are tempting because they tend to give the appearance of balance on the Commission. We have avoided this approach. State officials serving ex officio already have a fulltime job, and would be functioning at a disadvantage to the members of the Commission who are substantially fulltime. We also feel that the land use commission has some of the same kinds of responsibilities as an appellate court, and for this reason, the representation of any particular constituency is not as important a credential as the possession of sound judgment. We would like to think of each member of the Commission as representing all elements in the state and balancing their interests in his own mind, rather than being a partisan for any particular point of view. In addition, the normal political process of appointing members of the Commission should tend to ensure that diverse viewpoints from all areas of the state are represented, without the necessity of spelling this out. A devious governor can always find environmentalists and minorities who are willing to sell out, or, on the other hand, businessmen who are fervent environmentalists and social reformers.*

The provision setting forth a per diem, rather than a salary, is to indicate that the Commission should be appointed and serve through the political process rather than the civil service process. If your state permits members of regulatory agencies to be appointed through the political process, and yet draw a state salary, this is preferable to the per diem.

X-302 Commission: Rules, Meetings, General Powers and Duties.

(1) The Commission shall be a body corporate and politic and may sue and be sued.

(2) Annually, the Commission shall elect one of its members as chairman, another of its members as secretary, and it may establish such other officers and committees as it deems appropriate from time to time.

(3) The Commission shall meet at such times and places as may be determined by the chairman, or in writing by any three members of the Commission, for the efficient conduct of its affairs. Each member shall have one vote and the affirmative vote of a majority of the members of the Commission shall be required for action by the Commission. It shall adopt rules for its conduct, provided that all activities and decisions of the Commission and its staff shall be conducted in public. It shall maintain a record of its activities and decisions, and keep this record available to the public at its office during regular hours.

(4) The Commission may employ such staff, pursuant to the provisions of (the state civil service law), as it may deem necessary and proper. In addition, it may utilize the technical skills and disciplines found with-

in the several state agencies, and among the various institutions of higher learning. For specific tasks outside the expertise of its staff, the several state agencies, and the various institutions of higher learning, the Commission may contract with consultants. The staff of the Commission shall be available and accessible to regional planning commissions, local government, or the staff thereof, upon request. Any sharing of personnel between government agencies, or between units of government, pursuant to this subsection, may be accomplished on a straight assignment basis, cost sharing basis, or reimburseable basis, at the discretion of the Commission and in cooperation with affected state agencies, institutions of higher learning, regional planning commissions, or units of local government.

(5) The Commission may promulgate and adopt rules and regulations pursuant to the provisions of (the state administrative procedures act), consistent with the provisions of this article, and when necessary or desirable for the administration, enforcement, and implementation of this article.

(6) The Commission may receive and utilize funds from the Federal or other governmental agencies and grants and gifts from any other sources.

(7) The Commission may hold hearings, subpoena witnesses and documents, administer oaths and affirmations, and issue such orders as may be necessary or desirable to properly conduct its affairs and for the administration, enforcement, and implementation of this article, subject to the provisions of (the state administrative procedures act).

Over the years, each state has developed legal language establishing its various regulatory boards and agencies. In most instances, this language has been litigated in the state courts, and a body of law has been developed surrounding it. Thus lawyers, legislators, and the courts place great reliance on this language.

The language above is intended as a guide: it indicates what the general powers and duties of the land use commission ought to be, and what the language of any proposed state legislation ought to cover. It is not exhaustive, and before a draft bill is developed, advice from state legislators or the legislative drafting office, if your state has one, should be sought concerning the wording of the provisions of the draft legislation covering these matters.

X-303 Commission: Specific Powers and Duties.

(1) The Commission shall have the power and duty to:

(2) Collect and develop data, and develop and adopt a plan for land use, natural resource extraction, and public capital expenditures in the state consistent with its data, the goals, objectives and policies of this article, and the wishes of the people of each region of the state. The first of such plans shall be developed on or before (date), the capital

expenditures plan shall be updated yearly thereafter, and the plans shall be redone every four years thereafter.

(3) Certify that regional plans developed by regional planning commissions are adequate in terms of development and articulation of public policy by the residents of the region, development of reliable information and data associated with such public policy, and conformance with the goals, objectives and policies of this article.

(4) Gather and develop information regarding Federal and state programs to be conducted in each region of the state, the cost of such programs, and the type and extent of impact which the programs may have on the goals, objectives and policies of this article, the state plan, and the regional plans, and communicate such information and data on Federal and state programs to the regional commissions, and aid the regional commissions in planning for such Federal and state programs.

(5) Designate matters of state concern pursuant to the provisions of this article, and grant and deny permits for designated matters of state concern pursuant to the goals, objectives and policies of this article and the state plan.

(6) Designate areas of state concern pursuant to the provisions of this article, and promulgate standards and criteria for land use decisions within such designated areas of state concern by regional planning commissions, and monitor any such decisions made by regional planning commissions for conformance to the said standards and criteria.

(7) Hear and decide appeals pursuant to the provisions of this article.

(8) Enjoin any land development activity operating outside the provisions of this article, pending any decision required by this article, which has materially or substantially altered its land development or natural resource extraction activities after a permit has been granted pursuant to this article, or during the period of appeal either to the Commission or the courts pursuant to this article. The Commission may issue an injunction *ex parte* without notice or hearing upon a finding of probable cause on its own motion, or upon the motion of any party with standing, but any such injunction shall be valid only for a period of 30 days, or until a hearing can be held on the issue of a temporary injunction, whichever is shorter, except that, in case the enjoined party is the one responsible for delay of such a hearing for a temporary injunction longer than 30 days, the *ex parte* injunction may continue until the said hearing. Temporary injunctions shall be issued only upon notice and hearing, pursuant to the provisions of (the state administrative procedures act), and shall last only for a period of 90 days or until such time that a hearing can be held on the merits of the case, whichever is sooner, except that in case the enjoined party is responsible for delay of the hearing on the merits past the said 90-day period, the temporary injunction shall be valid until the said hearing. Permanent injunctions shall be issued only after hearing and notice pursuant to

the provisions of the (state administrative procedures act), and only upon finding by a preponderance of the evidence.

(9) Borrow money at interest and repay the same, pursuant to the provisions of this article; and utilize any and all monies made available to it for such purpose to deal, as in its discretion it deems necessary and proper, in real estate for the purpose of implementing the goals, objectives and policies of this article and the state plan.

(10) Report to the Governor and the (state legislature) annually at the beginning of the legislative session regarding the implementation of the goals, objectives and policies of this article, and of the various regional plans, by the Commission, the other agencies of state government, the regional commissions, and local government; report problems and dislocations relating thereto, and its recommendations, and the recommendations of state agencies, regional planning commissions, and local governments, regarding amendments, additions, or deletions to the goals, objectives and policies of this article, or the various implementation procedures of this article.

(11) Generally, ensure to the (state legislature) and the people of the state that the goals, objectives and policies of this article are implemented.

Obviously, this is an extremely powerful administrative body. Consideration should be given to making this an elected body.

Power is centralized in the Commission to ensure the implementation of the Act. Members of the Commission are obviously responsible, and have the power to see to it that state policy is carried out. This would be impossible if land use questions were divided among various state agencies with relevant expertise, or left to the judgment of administrators responsible to departments of state government without any agency to reconcile differences.

The question occurs as to whether the land use commission is responsible for the capital expenditures budget of the various state agencies, in particular agencies such as highway departments which have a significant impact on land use. A distinction should be made between "plans" to be developed and adopted by the land use commission, and on the other hand "programs" to be developed by agencies and "budgets" which can be developed only by the state legislature. The planning function would of necessity be conceptual: it would not deal with either route alignments or line item budget allocation. It would indicate, both to the regional planning process and the state agencies, the emphasis and priority in both budgeting and program needed to implement the goals, objectives and policies, and the state plan. This is especially crucial if the state adopts a program of transfer of growth pressure from one region to another, because, to the extent that the trend can be bucked at all, it will be bucked by transferring public overhead capital expenditures away from the trend and into the planned growth area.

The process does enable the land use commission to have an effective veto over significant agency decisions which violate state goals, objectives and policy, because public as well as private decisions are regulated by the system, and significant public decisions are matters of state concern to be regulated by the land use commission. This provides added and probably sufficient impetus to agency decision makers to coordinate their programs with adopted regional plans, as well as with the goals, objectives and policies, and the state plan. Significant political upheaval can be expected from jealous agencies and departments significantly affected by the bill, and can be countered by indicating (truthfully) that such agencies have never been able to make decisions in a political policy vacuum. Rather than the uncertainty of endless public hearings, political pressure on elected state officials, and generally irregular and unreliable decision-making review for such politically hot agency decisions, this law gives the agencies the security of knowing, in advance, state and regional policy governing their decision, and a regular, aboveboard decision-making process to settle disputes. It should not be difficult to convince them that their agencies will be more effective in terms of serving constituents and taxpayers, and less the subject of political finagling, as a result of instituting the procedures in the bill.

Another duty of the state commission is to apply the state goals, objectives and policies to the situation in each particular region to help it develop its own regional plan.

PART IV. STATE CONCERNS

X-401 Areas of State Concern: Designation.

(1) The Commission, or any regional commission, acting concurrently or separately, shall designate the following as areas of state concern. Designation shall be by rule pursuant to the (state administrative procedures act), and shall set forth the physical limits of the area, the reason for the designation, and a recitation of findings upon which the designation is based. Designations made by the land use commission shall be at meetings held in the region in which the area under consideration is located.

(2) Areas of state concern are:

(A) areas of critical environmental concern;

(B) large-scale development;

(C) major land sales and development projects;

These three types of areas of state concern are taken directly from S. 268, the Federal Land Use Policy and Planning Assistance Act of 1974, which has been under consideration in Congress.

(D) hazard areas, and suspected hazard areas;

(E) groundwater recharge areas, areas of high shrink-swell potentials;

(F) areas with high concentrations of air, water, or noise pollution;

(G) urban sprawl areas;

(H) areas suitable for development as recreation areas;

(I) areas likely to be subject to strip development;

(J) areas subject to chronic unemployment and underemployment, economic stagnation, social dislocations;

(K) areas of historical, cultural, or scientific interest, including but not limited to habitat, unique or fragile ecosystems, scenic areas and vistas, areas of unique cultural heritage, natural and man-made historic landmarks, shorelines, beaches, tundra, wetlands, continental shelf.

(L) Wetlands, water bodies, water courses and ecologically linked natural terrain and features.

X-402 Areas of State Concern: Procedure.

(1) Upon designation, no permit for development activity shall be issued by either the land use commission or any regional commission in the area of state concern until the land use commission determines that the provisions of this section are met.

(2) Upon designation of an area as an area of state concern, the land use commission shall have 90 days in which to promulgate rules and regulations to govern the area of state concern, which rules and regulations shall satisfy the state concern and ensure the implementation of state goals and policies in the area so designated. All hearings and decisions pursuant to this subsection shall be held in the region where the area of state concern is located.

(3) Upon the promulgation of such rules and regulations, the regional planning commission shall enforce such rules and regulations over the area of state concern. Nothing shall prohibit the enforcement of all other regional policies or standards, criteria, and technical review procedures pursuant thereto in effect at the regional level which are not inconsistent with the state rules and regulations, and nothing herein shall prohibit the regional planning commission from adopting rules and regulations governing an area of state concern which are more stringent than those promulgated by the land use commission.

X-403 Matters of State Concern: Designation.

These would be analogous to "areas of state concern" but would deal with impacts or functions such as "major energy facilities" or "industries employing 100 or more persons" for which the exact geographic location does not exist.

X-404 Matters of State Concern: Procedure.

(1) Upon designation, all construction activity, if any, associated with the matter of state concern, or such other land development activities associated with it which may be designated peripherally pursuant to subsection ( ) of section X-403, shall cease.

(2) The proponent of the land development activity or activities which have been designated a matter of state concern shall thereupon apply to the land use commission for a state permit. Upon receipt of the application, the land use commission shall notify all interested parties and hold a hearing on the granting of the permit in the region where the matter of state concern has been designated. The commission may grant, conditionally grant, or deny a permit based on adopted state and regional policy, the impact on such policy as indicated in the applicant's impact statement, or in such other testimony as may be adduced at a hearing.

(3) The Commission, at its discretion, may establish such monitoring or reporting procedures as may be necessary to satisty the Commission that the representations of the applicant, and any conditions on the permit, are followed.

(4) The Commission may establish a reasonable schedule of fees, to be based on costs incurred by the Commission for analyzing and decision making on the permit application, and the reasonable expenses of hearings, public notice, and other incidental expenses associated therewith, and charge these fees to the applicant.

In subsection I, the developer should be allowed to apply to the land use commission for an advisory ruling as to whether he constitutes a matter of state concern before construction begins.

X-105 Interagency Coordination.

(1) All state agencies, regional planning commissions, and units of local government shall coordinate their efforts, information and activities so as to minimize dislocations in the efficient administration of this act. For the purpose of coordinating state agency programs and decisions, the land use commission shall be the lead agency. For the purpose of coordinating local government plans, programs, and decisions with each other and with various state and Federal programs, plans and decisions, the regional planning commission shall be the lead agency. Once a regional plan has been adopted, and approved by the land use commission as being in conformance with adopted state goals, objectives and

policies, the said regional plan shall be given great weight in the plans, programs and decisions of the various state agencies and the land use commission.

PART V. REGIONAL PLANNING

X-501 Regions Created.

The boundaries set forth in (state statute or executive order) delineating the extent of councils (associations) of government, are hereby established as the boundaries of the various planning regions of the state.

This language presumes that: (1) boundaries for regional councils of government have been established in your state and (2) they conform roughly with the notion of "impact areas" set forth in the introduction to the planning process. No land development activity has the same impact area as any other land development activity; nevertheless, it is possible to draw boundaries around areas of more or less natural economic, social, and environmental interrelationships. These interrelationships, which are the cause of the impact function, also create the necessity for the jurisdictions based on them.

X-502 Regional Planning Commissions Created: Membership, Compensation, Removal.

(1) Within 60 days after the effective date of this act, the Secretary of State (or other responsible state official with such duties) shall divide each region designated by Section X-501 and having a population greater than 100,000 into nine districts of substantially equal population, and every region designated in Section X-501 with a population of less than 100,000 into five districts of substantially equal population. These districts shall serve as election and representation districts for the members of the regional planning commission set forth in this section. Thereafter, after every dicennial census, the regional planning commission members shall redesignate their districts so as to maintain them at a level of substantially equal population, and, should the dicennial census indicate that the population of the region has grown to more than 100,000, or decreased to less than 100,000, the regional planning commission shall increase or decrease the number of members of the commission according to the above formula. To the extent possible, districts shall conform to socioeconomically and environmentally homogeneous areas first, and local government jurisdictions second.

Population statistics are examples only.

(2) Members shall be elected, one from each district, to serve on the regional planning commission. The manner of election shall be that prescribed in the (state election law), except that the Governor shall appoint one member from each district to serve on each regional planning commission until the next general election.

(3) Members shall serve for a period of four years, and shall be removable for cause pursuant to the (state impeachment and recall laws).

(4) Members shall be entitled to reimbursement from the general funds of the regional planning commission for all necessary and actual expenses incurred in the performance of their official duties. In addition, the regional planning commission may, by rule, establish a per diem for members of the commission, not to exceed $50, for each day spent on the business of the commission, or for attending meetings. Such per diem shall be payable from the general funds of the regional planning commission, or from any fees which it may levy on applicants for land development activities pursuant to its official duties.

(5) There are hereby created (number) units of local government, to be called "regional planning commissions," whose jurisdiction is set forth in section X-501.

X-503 Regional Planning Commission: Rules, Meetings, General Powers and Duties.

A section should be written conforming to state laws.

X-504 Community Planning Commission: Specific Powers and Duties.

(1) The regional planning commission shall have the power and duty:

(2) To designate neighborhoods, on the basis of economic, social, environmental, and local jurisdiction interrelationsnips and homogeniety, and from time to time alter the boundaries of such neighborhoods to reflect changing economic, social, environmental, or local government jurisdiction conditions, and within each neighborhood so designated, to establish and constitute a Citizens' Advisory Committee;

(3) To develop and adopt plans and programs as follows:

(A) A policy plan;

(B) A land use plan;

(C) A public facilities plan;

(D) Standards, criteria, and technical review procedures applicable to land development activities.

(E) Submission requirements (impact statements); monitoring procedures;

(F) In the implementation of the subsection (3), the regional planning commission shall utilize the services of the Citizens' Advisory Committees to develop public policy, and the regional planning teams, as such may be made available to the regional planning commission by the land use commission from time to time, and such other expertise on its staff or contracted for as it deems necessary and proper, to develop studies, information and data as may be necessary to substantiate the public policy. At a minimum, public policy developed and adopted pursuant to this subsection (3) shall be consistent with, and implement, the goals, objectives and policies contained in this article.

(G) Land use plans, public facilities plans, and standards, criteria and technical review procedures developed and adopted by the regional planning commission pursuant to this subsection (3) shall be consistent with, and implement, the policies contained in the policy plan.

No plan developed and adopted pursuant to this subsection (3) shall be operative until it is first submitted to the land use commission for approval as being in conformance with, and implementing, the goals, objectives and policies of this article. Such approval by the land use commission shall be presumed if communication to the contrary is not received by the regional planning commission 30 days after such plan or plans have been submitted to the land use commission for approval.

(H) Plans developed and adopted by the regional planning commission pursuant to this subsection (3) shall, in all manners, satisfy the requirements of the Federal Air Quality Act of 1967, and the Federal Water Quality Management Act of 1972, as those acts may from time to time be amended.

Other Federal acts or state versions could be referred to.

(4) To serve, in all respects, as the air pollution control agency for the purpose of implementing the 1967 Air Quality Management Act and the Water Quality Management Act of 1972, as those may be amended from time to time, and shall serve as the reviewing agency for applications for Federal assistance pursuant to Office of Management and Budget Circular A-95.

(5) To develop and adopt any and all such ordinances, rules, and regulations as may be necessary to conduct its own affairs, to implement the goals, objectives and policies of this article, and to implement the various plans set forth in subsection (3). Such ordinances, rules, and regulations shall include, but not be limited to, a procedure to delineate certain areas particularly affected by one or more adopted policies, and, pursuant to that policy, specify land development activities which may not be conducted there, special standards, criteria, and technical review procedures which must be followed in such areas, and the like; procedures for granting, conditionally granting, and denying permission to conduct land development activities, to create, enlarge, or decrease in size local government jurisdictions;

In the planning documents, provision should be made for inclusion of local, Federal and state programs and capital expenditures.

(6) To deal in real estate, and to condemn land by the power of eminent domain, when such is necessary and proper for the implementation of the plans set forth in subsection (3).

Permits are issued on the basis of impacts on policies and therefore the regional planning commission should be empowered to require design impact statements. Also, the land use commission should be empowered to promulgate rules saying what should be in regional impact statements to satisfy state concerns.

(7) To issue injunctions. . . .

Regional planning commissions should also be allowed to issue transferable development rights.

X-505 Citizens' Advisory Committees Created: Officers, Membership, Meetings.

(1) Citizens' Advisory Committees shall be constituted and governed by articles of incorporation, by-laws, and rules of procedure promulgated by the regional planning commission. Such documents shall include, at a minimum, provisions governing the following: the initial appointment, by the regional planning commission, of a chairman and secretary of the Citizens' Advisory Committee; within two months after such appointment, a provision for the members of the Citizens' Advisory Committee to elect, on an annual basis, a chairman, secretary, and such other officers as the regional planning commission, in its discretion, deems appropriate; provisions ensuring that all registered voters who reside in the neighborhood may become members of the Citizens' Advisory Committee, without regard to payment of any special fee or dues, and in other ways ensuring that the Citizens' Advisory Committee may have open and informal membership requirements; provisions ensuring that meetings of the Citizens' Advisory Committee may be called by members, or groups of members, of the Citizens' Advisory Committee in addition to call by the chairman or secretary, and that adequate advance notice of all meetings of the Citizens' Advisory Committee is given to the voting residents of the neighborhood.

The Citizens' Advisory Committe should be the forum for the "town meeting," and thus should be open to all voting residents of the neighborhood, both legally and in practice. Assurance should be given that no elaborate procedures or membership dues are necessary for membership in the Citizens' Advisory Committee; in fact, the language indicates that such voting residents as may be interested in the subject matter of the meeting should simply be allowed to go, present their credentials as voters and residents, and participate.

(2) When, in its discretion, the regional planning commission deems that it is necessary or desirable to implement the intent of this article, it shall establish a body comprised of representatives of Citizens' Advisory Committees from all or part of the jurisdiction of the regional planning

commission, the duties of which body shall be to coordinate the work and advice of the Citizens' Advisory Committees, resolve conflicts to the extent possible, and in other ways to aid in the communication of concerns, goals and policies from the Citizens' Advisory Committees to the regional planning commission, and to aid in the dissemination of such information as may be desirable for the Citizens' Advisory Committees to have.

The intention of this subsection is to permit the establishment of such councils in large metropolitan areas or widely dispersed geographic areas where, because of complexity or logistics, the members of the regional planning commission would not be able to adequately handle the citizen-policy input and need help. Care must be taken, should such a council be established, that it not act as a filter for citizen ideas to the decision makers, but rather as a facilitator. In general, such councils should probably be avoided, with the coordinating and compromising function handled by the regional planning commission and its staff directly.

X-507 Citizen Advisory Committees: Powers and Duties.

(1) Citizens' Advisory Committees shall have the power and duty to:

(2) Develop goals, objectives and policies, consistent with this article, regarding land development activities and boundary adjustments as these may affect both the neighborhood and the region, and generally, regarding the future of the neighborhood and the region, and communicate their conclusion to the regional planning commission;

The land use commission and the regional planning commissions must have the power and duty to replan periodically.

(3) To advise the regional planning commission, as from time to time the Citizens' Advisory Committee deems necessary and proper, regarding such proposals for land development activities and boundary adjustments as these may impact the neighborhood, and their opinion and advice regarding the extent or degree to which such proposals may impact adopted state or regional goals, objectives and policies;

(4) Upon affirmative vote of a majority of those present and voting at a regular meeting, the Citizens' Advisory Committee may appeal any plan, decision, or portion thereof, made by either the land use commission or the regional planning commission, pursuant to the provisions of this article. Immediately upon such a decision to appeal, the secretary of the Citizens' Advisory Committee shall notify the regional planning commission, the land use commission, any applicable court, the proponent of relevant permit applications, and the media. Upon receipt of such notification, the regional planning commission shall make available to the Citizens' Advisory Committee such legal and technical advice, either as members of the regional planning commission staff or consultants thereto

hired for such purpose, as may be requested by the Citizens' Advisory Committee and may be reasonable and proper for the conduct of such appeal.

X-508 Planning Procedure.

(1) In the process of developing the policy plan, the regional planning commission shall utilize the services of the Citizens' Advisory Committees for developing regional goals, objectives and policies which are consistent with the provisions of this article; it shall utilize the services of the regional planning team for the purpose of developing data and information relating to such goals, objectives and policies, which data and information is sufficient in terms of quantity and quality and relevance to fully substantiate the policy plan; and it or its staff shall be responsible for communicating policy from the Citizens' Advisory Committees to the regional planning team, and data and information from the regional planning team to the Citizens' Advisory Committee, to the end that the goals, objectives and policies articulated by the Citizens' Advisory Committees have foundation in fact, and that the data and information developed are relevant to the goals, objectives and policies of this article, and of the people of the region.

(2) In the development of the policy plan, the regional planning team, the Citizens' Advisory Committees, and the regional planning commission and its staff shall, where appropriate, develop alternative sets of policies and, to the extent possible, scenarios postulating the implications of adopting each set of policies to guide the future growth and development. Policy plans shall set forth one or more areas or cities within the region which are intended to absorb most or all of the expected future growth of the region.

(3) The regional planning commission shall take affirmative action to ensure that each alternative set of policies and the scenarios indicating the implications of each set of policies upon the future growth and development of the region are broadly disseminated and made the subject of widespread public debate. Citizens' Advisory Committees shall be utilized as an integral part of this program, and citizens should be encouraged to utilize Citizens' Advisory Committees for the expression of their opinions on the policy plan. No policy plan shall be adopted until this process has taken place, and, before any regional policy plan is certified as being in compliance with this article by the land use commission, the land use commission shall satisfy itself that the goals, objectives and policies of the regional plan conform, as closely as possible, with the wishes of the people in the region.

(4) Upon adoption, and certification by the land use commission as being in compliance with the goals, objectives and policies of this article, the policy plan shall govern the regional planning commission in the development of all other plans and all other decisions.

(5) To the extent possible, the regional planning commission shall set forth in the policy plan priorities for the implementation of policies, and such other procedures as it may deem reasonably necessary and proper to guide developers and citizens in resolving apparent inconsistencies between policies.

(6) The regional planning commission shall establish standards, where necessary and proper, to guide in the implementation of the policy plan. For policies for which it is impossible, or undesirable, to establish standards, criteria, and technical review procedures associated therewith, the regional planning commission shall establish standards, criteria and technical review.

(7) Each regional planning commission shall develop and implement a system to monitor the construction and subsequent use of all land development activities within its jurisdiction for the purpose of developing a reliable data base for future planning, for determining the extent to which the land development activity conforms to its proposal, and to any conditions made a part of the permit for any land development activity, to discover and rectify any violation of applicable standards, criteria, or technical review procedures imposed by either the regional planning commission or, if the development activity is in an area of state concern or is a matter of state concern, as may have been imposed by the land use commission, and to determine the extent to which the goals, objectives and policies of this article, and the policy plan of the region are being implemented. The monitoring procedures shall also include periodic updating of environmental, social, demographic, public facilities and public expenditures, and private economic data as, in the opinion of the regional planning commission, is necessary and proper to perform future planning functions with a minimum of disruption to the governmental process in the future, and to implement the intention of this article.

(8) The regional planning commission shall implement this planning procedure on or before (date), and every four years thereafter. On or after (date), and on or after (date) every four years thereafter, no land development activity shall take place, or be permitted by the regional palnning commission within its jurisdiction, unless and until this process has been complied with anew, and the resulting policy plan has been approved by the land use commission pursuant to the provisions of this article.

PART VI. COMMUNITY DECISION MAKING

X-601 Declaration of Intent.

(1) All persons intending to change the use of land, increase the intensity of the use of a piece of land, or develop natural resources, shall file a declaration of intent with the regional planning commission.

(2) The land use commission shall, by rule, prescribe the form and content of such declarations of intent. At a minimum, declarations of intent shall include the following:

(A) The name of the developer, his address, his normal place of business, and phone number. If the developer is a corporation, the officer or other person responsible for the land development activity shall be set forth.

If a government agency, the name of the responsible official.

(B) The nature, extent, and location of the proposed change in land use.

(C) A list of exemptions to the provisions of this article, as found in this article, together with space for the proponent of the change in land use to indicate whether he feels he is entitled to an exemption, and if so, on what grounds.

In the planning procedure, there should be provision made for the adoption of maps of reference.

(D) Space for the proponent to set forth rough estimates of the demand, if any, the proposed change in land use will have on water, sewer, municipal services, and utilities, and the means for satisfying the same, the expected impact of the proposed change in land use on the regional plan, and the goals, objectives and policies of this article, including any opportunities or constraints to the proposed development activities shown on the adopted maps of reference, including the existence of any areas of state concern, and space for the proponent to request a determination from the land use commission as to whether the development activity constitutes a matter of state concern.

(E) Any other information which the land use commission deems necessary and proper for the enforcement of the provisions of this article, and the implementation of the goals, objectives and policies of this article.

(3) Any regional planning commission may prescribe that the declaration of intent contain such other information as, in the opinion of the regional planning commission, is reasonable and necessary to determine, at a preliminary stage, impacts on adopted regional plans.

(4) The requirements of the declaration of intent shall not include elaborate proof from the proponent of any of his representations thereon.

(5) The regional planning commission may specify a reasonable fee to be included with the declaration of intent, which fee shall not be more than the cost incurred by the regional planning commission in processing the declaration of intent pursuant to the provisions of this section.

(6) Upon receipt of a declaration of intent, the regional planning commission or its authorized representative shall issue a receipt therefor, and proceed to determine whether an exemption from the provisions of this article should be granted, and if so, the grounds therefor, or whether the proposed change in land use falls within the provisions of this article, and notify the proponent of its decision within five working days of receipt of the declaration of intent. No exemption from the provisions of this article may be granted except by the regional planning commission at open meeting with notice.

(7) If the proposed change in land use is a land development activity under the provisions of this article, the regional planning commission or its authorized representative shall, upon reasonable request from the proponent, discuss with the proponent any and all policies which, from the representations made in the declaration of intent, may reasonably apply to the land development activity, and possible ways which the proponent thereof may wish to comply therewith.

(8) If the regional planning commission finds that the proposed change in land use is not a land development activity within the meaning of this article, it may nevertheless require compliance with such standards, criteria and technical review procedures as may be necessary and proper to implement the goals, objectives and policies of this article, or the public health, safety and welfare. Upon compliance with any such special provisions, the change in land use shall be monitored pursuant to the provisions of this article.

X-602 Permits: Submission Requirements.

(1) All proponents of land development activities not exempted pursuant to the provisions of this article shall submit to the regional planning commission an impact statement pursuant to the provisions of this section.

(2) Impact statements shall include:

In either the regional planning commission section, or the goals, objectives and policies section, provision should be made to require regional policy to govern specific items such as those contained in zoning ordinances and subdivision regulations, governing road construction, setbacks, signs, density, bonding of public improvements, dedication of land for parks and schools, etc.

(A) Evidence, as may be required by the regional planning commission, by rule or by regulation, which is sufficient in the opinion of the regional planning commission to show the impact of the proposed land development activity on adopted regional policy *(include here local public expenditure and capital facilities planning)* and the goals, objectives and policies of this act.

(B) The regional planning commission has set standards or criteria and technical review procedures, and where it finds that a land development activity meets either the standards or the criteria and technical review procedures, such finding by the regional planning commission shall constitute a presumption that the land development activity complies with the policy, or so much of the policy as is covered by such standards or criteria and technical review procedures.

The regional planning procedures should develop maps of reference with both constraint zones and opportunity zones shown on them.

(C) The evidence shall be presented in such form and format as the regional planning commission may by regulation provide; however, nothing herein shall create a presumption that by following such regulations, the evidence provided by the proponent is either valid or sufficient.

(D) The regional planning commission shall prescribe that the form, content and format of the impact statement relate to adopted regional policy and any standards, criteria and technical review procedures promulgated pursuant thereto, to the goals, objectives and policies of this article, to any special standards, criteria and technical review procedures applicable in areas of state concern.

(E) If the land development activity is a matter of state concern, such form, content and format as may be prescribed by the land use commission for evidence relating thereto shall be followed.

X-604 Permits: Procedure.

(1) Upon receipt of an impact statement, the regional planning commission or its designated representative shall issue a receipt for and, within ten working days, issue an advisory opinion as to whether the submission requirements of this article, and of the regional planning commission,have been complied with in the impact statement. No impact statement may be considered until the submission requirements are complied with. Upon certification that the submission requirements have been complied with, the substantive evidence required of, and permitted to be introduced by, the proponent of the land development activity is complete. Thereafter, the proponent may explain, interpret, and debate such evidence as is contained in his impact statement, but may not introduce new evidence except upon motion of the regional planning commission, upon good cause shown.

(2) Upon certification that the submission requirements have been completed, the regional planning commission or its staff shall publish notice, in the manner prescribed by law, of the time, date, and place of the preliminary hearing to be held by the commission on the proposal. Said hearing shall be not less than 30, nor more than 60 days after certification of compliance with the submission requirements.

(3) Immediately upon certification of compliance with the submission requirements, the regional planning commission or its designated agent shall transmit a complete copy thereof to the following:

(A) To the land use commission for a determination as to whether the land development activity is in an area of state concern, or is a matter of state concern. Such determination shall be made within 15 working days after the land use commission receives the impact statement, and notice shall be given to the regional planning commission, the proponent, and the public regarding any such determination by the land use commission.

(B) To the appropriate school district;

(C) To each county and municipality within a two-mile radius of any portion of the proposed land development activity;

(D) To all applicable utility, local improvement or service districts, or ditch company;

(E) To the state forest service, when appropriate;

(F) To any regional planning commission the jurisdiction of which extends to within five miles of any portion of the proposed land development activity;

(G) To the state (Federal) geologic survey for an evaluation of geologic factors which would have a significant impact on the proposed use of the land;

(H) To the Soil Conservation District board or boards within the region for explicit review and recommendations regarding soil suitability, flooding and other natural hazards. Such referral shall be made even though all or part of a proposed land development activity is not located within the boundaries of a soil conservation district;

(I) To the (state or local) department of health, for review of the proposed on-lot sewage disposal system, if applicable, or for review of the adequacy of existing or proposed common sewage treatment facilities to handle the estimated effluent, and, in addition, for a report on the existing water quality of the proposed water supply to serve the proposed land development activity and of the water quality downstream from the proposed land development activity, and the impact that the proposed land development activity will have on such downstream water quality.

(J) As appropriate, either to the (water board) for opinion regarding the capacity of existing or proposed water systems to supply the proposed land development activity water of a quantity necessary for the proposed activity, or to the (state water engineer) for an opinion regarding material injury to water rights, historic use of and estimated water yield, to supply the proposed land development activity, and any condition associated with the proponent's evidence on water supply. The (state water engineer) shall also report on the cumulative effect of on-lot wells on water rights in existing wells;

The referral to municipalities and special districts should be specified to include impact on waterworks, fire and police protection, road systems, libraries, recreation, etc.

(K) To the state department of fish and game, if applicable, for an opinion regarding impact on big game herds, rare and endangered species, or sport or commercial fish or shellfish;

(L) To any state or Federal agencies owning land within a one-mile radius of the proposed land development activity;

(M) To any other and all other agencies or persons who may, in the opinion of the regional planning commission, be affected by the proposed land development activity.

(4) The regional planning commission or its designated agent shall contact each of the agencies which have not responded within 15 days, asking whether an extension of time is necessary for the agency to respond. If, on or before the 24th day, the agency responds that such an extension is necessary, the planning commission shall seek the consent of the proponent to grant such extension for a total period not to exceed 54 days from the date of original transmittal. Any agency which fails to respond within 24 days, or within the period of an extension, shall, for the purposes of the procedural requirements of this article, be deemed to have waived its comment.

(5) Upon receipt of response by an agency, or upon default of response by them, the regional planning commission shall make such information known to the proponent, and to the public, and shall make such response available to the public at its office during regular business hours, and shall reproduce the same for cost for any person wishing a copy of it.

(6) At the hearing, any resident of the region, any corporation doing business in the region, any non-profit corporation or foundation or incorporated citizens' group with interest in the region, any agency of state, Federal, or local government, shall have reasonable opportunity to question the proponent of the proposed land development activity, present evidence regarding the impact of the proposed land development activity on the policies of the region or the goals, objectives and policies of this article, which evidence may tend to either support or refute the evidence contained in the impact statement. The proponent shall have the right to rebut any such evidence, or substantiate any evidence as he sees fit.

(7) At this hearing, the planning commission shall make such recommendations as it deems necessary and proper to changes in the proposal which, if such changes were made by the proponent, would enable the proponent to

better implement the adopted regional policies and the goals, objectives and policies of this article. Such recommendations may be made by any member of the commission, but any recommendations made by the entire commission shall be made by resolution and communicated to the proponent and to the public within one week after the hearing. At this hearing, a time, date and place shall be set for the final hearing on the proposal, and such notice shall be printed and publicized to the public.

(8) Any changes in the proposal made by the proponent therof, together with the impact of such changes, shall be put on file, and public notice shall be made thereof at least 15 days before the next hearing. At such hearing, the only evidence which may be presented shall be dealing with the changes, if any, made by the proponent of the land development activity, and the expected impact thereof. At this hearing, the planning commission shall decide whether to grant, or not grant, a permit for the proposed land development activity, and if the decision is made to grant the permit, any such conditions which may apply thereto. The adoption of such a resolution granting a permit shall not be deemed to be an acceptance of any land or improvements dedicated by the proponent as a part of his proposal, in acceptance of bond or other guarantee or insurance of the successful completion of such improvements.

X-605 Appeal: Goals, Objectives and Policies.

(1) Any proponent of a land development activity, any person or other legal entity who participated in the regional planning commission hearing, any entity of local government, or any Citizens' Advisory Committee which participated in a hearing before the regional planning commission, and which is aggrieved by a failure of the regional planning commission to enforce or implement the goals, objectives and policies of the regional plan, or of this article, in an action granting, conditionally granting, or denying a permit for a land development activity pursuant to this article, or the land use commission on its own motion, may appeal such decision of the regional planning commission to the land use commission within 30 days of any such decision by the regional planning commission.

(2) Any such appeal shall be conducted pursuant to the (state administrative procedures act), except that all such appeals concerning the same regional planning commission decision shall be joined and heard at the same time.

(3) In questions regarding the interpretation and balancing of the goals, objectives and policies of this article, and as such may relate to goals, objectives or policies adopted by a regional planning commission, the decision of the land use commission shall be definitive, and binding on all parties in the courts. In the interpretation of goals, objectives or policies adopted by a regional planning commission, which are not intended to implement the goals, objectives and policies of this article, the decision of the regional planning commission shall be definitive and binding on all parties, the land use commission, and the courts.

(4) In its order affirming or reversing a decision of the regional planning commission, the land use commission may attach such further conditions to a permit as it, in its discretion, may deem reasonably necessary and proper to enforce the goals, objectives and policies of this article, or as adopted by a regional planning commission.

X-606 Appeal: Law and Precedure.

A section should be written conforming to standard state laws and processes.

PART VII. PENALTIES

X-701 Penalties.

In addition to all other redress available under this article, any person who willfully begins construction, or, in the case of a partnership, corporation, joint venture, or other legal entity, the person or persons who cause construction to begin on a land development activity without first having obtained a permit from the regional planning commission and, if applicable, a permit for a matter of state concern from the land use commission, or who willfully fails to comply with conditions lawfully attached to such permit or permits, is guilty of:

(A) a misdemeanor, if the assessed valuation of the land development activity upon completion would be $_______ or less, and shall be punished by a term not to exceed one year in the county jail, and a fine not to exceed the assessed valuation of the land development activity if it had been completed; or

(B) a felony, in the case the land development activity would have an assessed valuation greater than $_______ upon completion, and shall be punished by a term not less than six months nor more than three years, in the county jail or penitentiary, and a fine not to exceed the assessed valuation of the land development activity if it had been completed.

APPENDIX D

TESTING THE PROPOSED SYSTEM

One task in the research project was to test the proposed LUDMS in a simulation. The researchers had to consider what a test could accomplish. There were two choices. One, the test could have tried to evaluate the effectiveness of the LUDMS in achieving a more environmentally responsible land use decision in a real jurisdiction confronted with a real land use problem. Two, the test could evaluate the effectiveness with which the project staff communicated the LUDMS process itself, and the acceptability of this process by a real cross section of land use actors. The second choice was utilized due to time and budget limitations. To be valid, a real-life test would have required the adoption of the LUDMS approach by a real jurisdiction, the application of the process to a given development proposal, and then at some reasonable time interval, the evaluation of the decision arrived at. Given the one-year time frame of this project, and the budget available, such a testing procedure was physically impossible.

In taking the second approach, however, the researchers believe that a great deal of valuable information was produced. Further, a substantial "reality check" was provided for anyone wishing to advocate or adopt a LUDMS approach in a real land use decision process.

The test, then, sought to answer these questions:

-- Could the basic approach of LUDMS be communicated in a relatively short time to a group of interested land use actors (private citizens, land planners, public officials, and representatives of land sales and development interests)?

-- What reaction would such a cross-sectional group have to this process as compared to their existing land use decision process?

-- How well could such a group utilize LUDMS in a simulated planning and decision process?

-- What suggestions would such a group have for improving the system, having worked through the LUDMS process under simulated conditions?

-- Would a basic premise of LUDMS--that land use is the root of many social and environmental problems--be independently perceived by the participants?

Given the limited purposes and time frame for the testing process, the researchers sought to conduct the test in a situation that met the following criteria:

-- a regional planning structure with staff capability

-- an area with both urban and rural land use characteristics

-- an area with a diverse cultural and racial population

-- an area with at least 100,000 population

-- an area which used the traditional zoning/master planning approach

-- an area where at least some background data on environment, social and economic conditions was readily available.

The Test

After the evaluation of six sites, the Pueblo, Colorado, area was chosen. The excellent planning staff of the Pueblo Regional Council of Governments greatly facilitated the gathering of information of the test and the involvement of a representative cross section of participants. Further, the Pueblo COG met the above criteria, and, in addition, was in the process of developing land use policy goals for the region.

The researchers met with members of the Pueblo Regional Planning Commission staff and the chairman of the Council of Governments. The entire LUDMS approach was reviewed and suggestions for applying it to the Pueblo situation discussed in detail. A two-day agenda was developed.

A. Communications of LUDMS.

A slide show depicting the LUDMS was developed, using the Pueblo area for much of the visualization of the presentation. Background information of the environmental components was reviewed. A development proposal was drafted which would confront the test group with an issue involving conflicting priorities among the environmental components.

The test moved from a general presentation of LUDMS to an intensive policy planning process which ultimately resulted in a draft "Policy Plan" for the region, to the presentation and resolution of the development proposal. A group of five "elected" officials acted as the Regional Commission for deciding on the development proposal. The slide and sound presentation was followed by a detailed staff description of the LUDMS process. The key components emphasized were:

-- the critical nature of the policy plan in the LUDMS approach

-- the need for relating environmental data to traditional land use criteria in the decision-making process

-- the role of the interdisciplinary team in the process

-- the implementation of the policy plan in the decision-making process involving a specific proposal.

The discussion which followed the presentation focused on what the basic differences were between master planning and zoning, which the participants were familiar with, and the LUDMS process. The emphasis of the staff presentation was that "policy planning" and the "permit" process of LUDMS greatly simplified decision making and made such decisions more responsive to community needs and environmental considerations. The participants were told to operate for the two days of the test as if there were no zoning regulations in their region; i.e., the Policy Plan would be the sole determinant of any land use decision made by the Regional Commission.

The discussion which followed the initial LUDMS presentation indicated a high degree of understanding on the part of the participants of the process they were about to simulate. This does not mean that there was initial agreement as to the validity of the process as opposed to their existing zoning system.

B. Development of the Policy Plan.

The participants were divided into five groups to develop policy components of the plan. Each group was led by a member of the interdisciplinary team. This team was composed of the actual consultants who had worked on LUDMS throughout the past year on the total land use project. Their preparation included briefing on the environmental, social, and economic data on the Pueblo area, as described in the LUDMS process. The interdisciplinary team's key function was to relate broadly stated citizen and public concerns to the data available that applied to the areas of concern. The five groups proceeded from a general discussion of "concerns" to developing goals related to the concerns, and then finally to making these goals into specific policies. Later, in a plenary session the various policies were presented and by majority vote either adopted into the Plan or rejected. The Policy Plan finally adopted is Attachment 1 to this Appendix.

C. The Development Proposal.

The staff (including the researchers, Pueblo regional planning staff and the land use project consultants) spent most of the evening between the test meeting days refining the policy statements of the Plan and relating the Development Proposal to the adopted policies. Attention was given to drawing out conflicts within the Policy Plan through the sort of development proposal that would be presented to the Regional Commission. The Development Proposal was for a proposed new industry, and it included a "fact sheet" and an "impact statement." This was presented by the researchers, who played the role of "developers." Following a general discussion of the proposal, the group broke into five subgroups for detailed evaluation of the proposal against the criteria of the Policy Plan and in terms of its impact and comparison with "technical evidence." One member of each subgroup then presented the recommendations to the "elected" officials of the Regional Commission. After a very lengthy discussion of each part of the Policy Plan in relation to the proposal, the Commission unanimously voted to reject the proposal, asking the developer to consider altering his development plan to bring it into conformity with the Regional Policy Plan.

D. Evaluation.

The final hour of the test was devoted to the completion of a questionnaire by participants. In general, it was shown that the LUDMS approach can be readily understood by both lay and professional land use actors, and can be applied to specific land use decisions. The tremendous energy exercised by the test group in staying with the process from beginning to end is a good indication of the viability of this process in real decision-making situations. Also, the professionals of the COG staff wrote individual critiques of the test and the LUDMS as presented at the test.*

The most rewarding finding of the test was that the participants almost unanimously voiced their approval of the involvement this approach to land planning gave them in the total life and concerns of their community.

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* These very lengthy comments are not included herein, but are on record at the EPA Project Office, the Rocky Mountain Center on Environment, and the Pueblo Area Council of Governments, 1 City Hall Place, Pueblo, Colorado 81003.

APPENDIX D - ATTACHMENT 1

LUDMS TEST: DRAFT POLICY PLAN

FOR

PUEBLO REGIONAL COMMISSION

1. Prime agricultural lands shall be protected from development (other than agriculture).
2. Geologic hazards shall be identified and such information used for protection of life, property, and stability of natural ecosystems.
3. Preserve aquatic and riparian ecosystems.
4. Avoid loss of life and property due to flooding consistent with ecological goals.
5. Development which forecloses the use of valuable minerals shall be avoided.
6. Mineral development shall be conducted to avoid or minimize adverse impacts.
7. Eliminate water pollution from all sources.
8. Eliminate air pollution from all sources.
9. Eliminate noise pollution from all sources.
10. Provide for a diverse parks, recreation and open space system to meet human needs and preserve ecosystem values.
11. Preserve historic sites and encourage rehabilitation of historic structures.
12. Improve visual image of city through abatement of commercial strip development, adoption of proposed sign code, development of downtown mall, and related programs with emphasis on environmentally degraded areas.
13. Revitalize and strengthen downtown core area.
14. Adopt and apply landscape treatments that are compatible with surrounding ecosystems.
15. Develop balanced transportation system, including pedestrian and non-motorized transport.

16. Encourage self-determination of neighborhood design.

17. Create opportunities for participation by diverse populations of community in local decision making.

18. Reflect diverse community needs in private housing development; particularly, require a percentage of low-income housing in each new development, based on community need.

19. The City and County of Pueblo shall seek all funds available for low-income housing based on community need.

20. Allocate educational resources to meet the needs of the total community; particularly, develop expanded opportunities for vocational education.

21. Expand employment base to meet needs of community; particularly, expand employment opportunities for chronically unemployed and underemployed.

22. Provide a diversity of employment opportunities.

23. Promote economic stability through a diversified industrial base.

24. Develop and apply an urban services plan that optimizes existing facilities and minimizes expansion costs.

25. The economic, racial and social diversity within neighborhoods of Pueblo shall be encouraged.

26. The City and County of Pueblo shall develop efficient and ecologically acceptable methods of waste disposal and shall encourage recycling of waste products.

APPENDIX D - ATTACHMENT 2

SUMMARY OF QUESTIONNAIRES USED AT LUDMS TEST, PUEBLO, COLORADO

Participants in the test of the LUDMS conducted at Pueblo, Colorado, were asked to indicate what their position was in the land use planning/decision-making system. The breakdown was as follows: public agency staff (12), appointed officials (2), commissioners or members of planning and zoning board (4), interested citizens (10). Many staff members also identified themselves as interested citizens.

In analyzing responses, it is important to keep in mind that participants knew about the LUDMS only what was included in the oral presentation. The system had not been designed to be understood completely without benefit of the written material. Also, these participants were trying to compress into two days a method which in reality would take the better part of a year to operate. The participants viewed the primary purpose of the LUDMS as being a more rational method of creating land use policies and establishing controls over land development. It was seen as a better way of integrating the technician, citizen and government official into the planning process.

The participants were asked what they liked about the proposed permit system, particularly in comparison to the existing zoning process. Some of the responses indicated a preference for a shorter process than zoning provided, a more flexible program for urban development. The permit system would have more control over changes and give specific criteria for change of use. They liked the requirement for the public to rethink their planning status and philosophy and felt that the public input was an important element (unified participation of all segments of the society). Better control of land use on a long-term basis and more systematic decisions on critical land use choices was another positive response. One respondent felt that the LUDMS and the permit system could force consideration of factors not included in zoning decisions. The scope of the data was considered beneficial, and also the fact that it included many phases of life which were often excluded from zoning decisions and provided definite standards to measure against.

Some of the elements which the participants criticized included the difficulty of maintaining citizen involvement: "Overwhelming citizen input would vanish after a one-shot crisis situation," "citizens won't necessarily present the 'right' ideas," "a lack of interest or dedication would doom its effective quality." The makeup of individuals on the commissions concerned would of course be the key to success of either approach, zoning or permit system; a method is only as good as the people who put it into operation. Some respondents felt that so many criteria were involved in the policy that development would be slowed and the process would be more cumbersome to both developers and reviewing agencies. The need to spend large amounts of money and time to administer better land use was seen as a pitfall of the new approach. Many responses indicated the feeling that except for the presence of the IDT and the CAC (social/economic concerns and citizen input), zoning could be implemented with the same process of goals and policy statements and a similar result could be obtained through mandatory planned unit development processes using traditional zoning procedures.

A large number of negative responses came from the public agency staff members and appointed officials in answer to the question: "Would concerned citizens be willing to consistently attend public meetings over a lengthy period of time in order to develop a 'policy plan' for Pueblo?" The majority of interested citizens, planning commissioners and the consultants were more optimistic and felt there was a good chance, or at least a fairly good chance, that citizens would be willing to participate over an extended period of time. One note indicated that it all depended on leadership, composition of the groups and their potential for influence. Several other respondents remarked that there are always certain citizens willing to participate in order to try to improve the community.

There was strong support for using a combination of appointed citizens and volunteer citizens on the CAC's. There was no clear breakdown in preference among staff, citizens, officials or commission members. Several notes indicated that citizens who volunteer and come consistently should automatically be appointed by the regional body. One staff respondent indicated there was no need for citizen input, and one consultant felt the CAC's should be strictly volunteer. (This question was particularly relevant to the revision of the LUDMS because the authors had originally recommended that only volunteer CAC's should be used.)

About a third of the staff respondents favored reliance on staff "experts" for the IDT. Otherwise, there was strong support for a combination of outside consultants to provide objectivity and new ideas, and "in-house" expertise to provide familiarity with the locality and the existing system.

In answer to a question about the workability of the system, the respondents seemed to feel that it could be implemented. There was not strong support for the possibility of immediate workability, but a moderately strong feeling that the bugs could be worked out in order to put the system into effect. Many people did feel that several important aspects of the permit system and planning process could be attached to the existing zoning process. This point also provides significant support against the criticism that the LUDMS represents too drastic a change from current planning and zoning to be feasible. Many participants saw the potential for using bits and pieces of the LUDMS and permit system to strengthen the existing process of planning and zoning. This fact could provide the mechanism for a smooth transition to a wholly new method of creating public policy for land use and development.

Almost all of the respondents felt that development decisions should be made on a regional rather than a county basis. The major obstacle was the difficulty of defining a region. (Pueblo is currently in the throes of a public debate about creating a region with city/county consolidation.) Some stress was put on the need for the state to designate areas of state concern. Also, concern was expressed by one participant that regional government would just create one more level of bureaucracy.

The next section seems to apply more to those who presented the system than to the system per se, but it might be informative to include some of the comments here. The question was: "Which concepts did you find most difficult to comprehend?"

Staff: Why an elected official could be "held accountable" under this system and not under zoning since the legal basis of zoning is also technical information.

The policy plan (i.e., the end product) should be described more thoroughly at the start.

The transition between the policy making and the actual decision making on the land is not clearly described.

How do you establish a consensus on what is a goal and what is a policy?

Why switch from one marginal system to another marginal system; not enough advantages are apparent.

The replacement of existing systems (particularly subdivisions) is not clear.

Too massive a collection of scientific data seems to be necessary for adequate decision making.

Officials: How do you get agreement on a policy statement acceptable to a majority of the community, and who is responsible for policy control?

Citizens: The mechanics to formulate citizen involvement are confusing.

Alternative policies, alternative futures and policy plans are not clear.

It's hard to believe that people would be willing to lose a dollar on land development for the benefit of others.

Continuity of the CAC's concerns by the elected decision makers is not guaranteed.

Consultants: What's the difference between goal and policy and objective?

In answer to the question: "Which aspects of the process seem as though they would be too difficult to apply?":

Officials: Enlisting help of citizens who are not directly affected.

Staff: Strict compliance with adopted policy.

Exacting community pressure when needed and for the right reasons. Who bears their expense?

Developing goals and objectives in reference to all the data generated and the subsequent analysis of that data.

Commissioners: Sociological aspects likely to be too idealistic and therefore perhaps not what the majority likes.

Citizens: Convincing COG that it is a system worth replacing zoning.

Generating a viable community policy statement through citizen groups, and maintaining continual citizen participation.

Gathering and communicating scientific and technical data.

The changeover to a permit system; the replacement of traditional zoning.

Consultants: The final decision on a permit being made on a "factual and analytical" basis rather than on a political-economic influence basis.

The major components of land use decision making which appeared to have been omitted from the LUDMS were identified as:

. policies and regard for political development;
. some vehicle for involving public officials in interface with CAC's;
. based on regional government which is currently nonexistent;
. phasing system: concrete steps as to how to implement;
. evaluation process to determine effectiveness;
. no recognition of existing regulation and laws;
. need more input and a system of checks from other official bodies.

The respondents were almost equally divided on the question of whether the proposed system would improve the quality of the environment. It must be remembered that this judgment was based only on the basis of an oral presentation. Most of the techniques for making environmentally responsible decisions included in the LUDMS document were not able to be included in the presentation.

A strong bias exists in the questionnaire results toward specialized local situations rather than an understanding of universal problems. The result is a biased "Puebloese" slant to all the answers; that is, all the answers depend on the respondents' experience in Pueblo. This is perhaps most strongly represented in answers from the staff.